

STATE OF CONNECTICUT  
DEPARTMENT OF ENVIRONMENTAL PROTECTION



EXHIBIT E

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 Environmental Protection Rules of Practice

Regarding the Repeal of Sections 22a-174-22a and 22a-174-22b and the  
Adoption of Section 22a-174-22c of the  
Regulations of Connecticut State Agencies

Hearing Officer:  
Wendy J. Jacobs

Date of Hearing: October 19, 2006

On August 31, 2006, the Commissioner of the Department of Environmental Protection (Commissioner and Department, respectively) signed a notice of intent to repeal sections 22a-174-22a and 22a-174-22b and adopt section 22a-174-22c of the Regulations of Connecticut State Agencies (R.C.S.A.). Pursuant to such notice, a public hearing was held on October 19, 2006, with the public comment period for the proposed repeals and adoption closing on October 27, 2006. The proposed repeals and adoption are intended to implement a trading program pursuant to the federal Clean Air Interstate Rule.

**I. Hearing Report Content**

As required by section 4-168(d) of the Connecticut General Statutes (C.G.S.), this report describes the regulatory actions proposed for hearing; the principal reasons in support of the proposed actions; the principal considerations presented in oral and written comments in opposition to the proposed actions; all comments made and responses thereto regarding the proposed actions; and the final wording of the proposal. Commenters are identified in Attachment 1.

This report also includes a statement in accordance with C.G.S. section 22a-6(h).

**II. Federal Standards Analysis in Compliance with Section 22a-6(h) of the General Statutes**

Pursuant to the provisions of C.G.S. section 22a-6(h), the Commissioner 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 proposed regulation or amendment 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 or amendment). The Commissioner must distinguish any such provisions either on the face of such proposed regulation or amendment or through supplemental documentation accompanying the proposed regulation or amendment. In addition, the

Commissioner must provide an explanation for all such provisions in the regulation-making record required under Title 4, Chapter 54 of the C.G.S. and make such explanation publicly available at the time of the notice of public hearing required under C.G.S. section 4-168.

In accordance with the requirements of C.G.S. section 22a-6(h), the following statement was available at the time of the notice of the public hearing and was entered into the administrative record in the matter of the proposed regulatory actions identified below:

Connecticut has participated in two distinct market-based nitrogen oxides (NO<sub>x</sub>) ozone season cap-and-trade programs. From 1999 through 2002, R.C.S.A. section 22a-174-22a established such a trading program among states in the Ozone Transport Commission. Beginning in 2003, R.C.S.A. section 22a-174-22b established Connecticut's Post-2002 NO<sub>x</sub> Budget Program (also known as the NO<sub>x</sub> State Implementation Plan (SIP) Call), which is based on a model ozone season NO<sub>x</sub> cap-and-trade program of the U.S. Environmental Protection Agency (EPA). EPA has recently promulgated a new ozone season NO<sub>x</sub> emissions cap-and-trade program, the Clean Air Interstate Rule NO<sub>x</sub> Ozone Season Trading Program (CAIR Trading Program), that is intended to replace the NO<sub>x</sub> Budget Program as of May 1, 2009. This proposal, which repeals R.C.S.A. sections 22a-174-22a and 22a-174-22b and adopts a CAIR NO<sub>x</sub> Ozone Season Trading Program under new R.C.S.A. section 22a-174-22c, is Connecticut's approach to implementing the CAIR Trading Program in Connecticut.

The Department has performed a comparison of R.C.S.A. section 22a-174-22c with applicable analogous federal provisions in 40 CFR 96. R.C.S.A. section 22a-174-22c incorporates by reference large portions of the CAIR Trading Program of 40 CFR 96, and differs substantially only in the omission of opt-in provisions and in the method by which NO<sub>x</sub> allowances are allocated to the owners and operators of regulated sources. The allocation method of R.C.S.A. section 22a-174-22c uses a modified output-based approach, without adjustments for fuel type, while the model allocation method of 40 CFR 96 uses an input-based approach with adjustment for fuel type. In addition, the allocation method of R.C.S.A. section 22a-174-22c includes an energy efficiency and renewable energy set-aside program for which there are no applicable federal standards and procedures. An energy efficiency and renewable energy set-aside is not an included requirement of 40 CFR 96. Rather, EPA considers such a set-aside program as an optional compliance strategy for states. EPA has issued guidance for states developing such a set-aside program but no regulations.

### **III. Summary and Text of the Proposal**

This proposal consists of three regulatory actions: the repeal of R.C.S.A. sections 22a-174-22a and 22a-174-22b and the adoption of R.C.S.A. section 22a-174-22c, which are summarized in Section II of this report.

The text of the proposed regulatory actions is located in Attachment 2 to this report.

### **IV. Principal Reasons in Support of the Proposal**

The primary purpose of the proposed R.C.S.A. section 22a-174-22c is to reduce the emissions of NO<sub>x</sub> from large stationary sources during the period of May 1 through September 30 by means of a market-based, cap-and-trade system, consistent with the federal CAIR NO<sub>x</sub> Ozone Season Trading Program.

If Connecticut does not adopt its own CAIR NO<sub>x</sub> Ozone Season Trading Program, the EPA's Federal Implementation Plan to Reduce Interstate Transport of Fine Particulate Matter and Ozone (CAIR FIP) will go into effect. The CAIR FIP's allocation methodology includes a fuel adjustment factor that rewards units burning dirtier fuel and is not consistent with the state's Energy and Climate Change Plans' goal of encouraging cleaner generation. In addition, imposition of the CAIR FIP would necessitate the creation of additional regulatory requirements for non-CAIR NO<sub>x</sub> Budget Program units. Such units are allocated allowances in the CAIR NO<sub>x</sub> Ozone Season Trading Program of R.C.S.A. section 22a-174-22c but are not allocated allowances in EPA's CAIR FIP. At 70 FR 25290, EPA indicates that states not using EPA's CAIR NO<sub>x</sub> Ozone Season Trading Program to achieve NO<sub>x</sub> SIP Call required reductions from non-CAIR NO<sub>x</sub> Budget Program units will be required to submit a SIP revision deleting the requirements related to such units' participation in the NO<sub>x</sub> SIP Call and replacing them with new requirements that achieve the same level of reduction. Finally, EPA's CAIR FIP does not include energy efficiency and renewable energy provisions. R.C.S.A. section 22a-174-22c includes a 10% energy efficiency/renewable energy set-aside for the purposes of encouraging such measures, consistent with the aforementioned goal of encouraging cleaner generation and technology included in Connecticut's Energy and Climate Change Plans.

The primary purpose of the repeal of R.C.S.A. sections 22a-174-22a and 22a-174-22b is the removal of obsolete regulations (see section II of this report for a description).

#### **V. Principal Considerations in Opposition to the Proposal**

No comments opposed moving the proposed new section forward for approval and promulgation. Some comments suggested technical revisions to certain portions of the new section and many of the comments submitted were focused on the allocation of allowances.

No comments opposed repealing R.C.S.A. sections 22a-174-22a and 22a-174-22b.

#### **VI. Summary of Comments**

All comments submitted are summarized below with the Department's responses. Commenters are identified by number in this section and are identified fully in Attachment 1 to this report. Comments are arranged in order of and identified by the section of the proposed regulation addressed. When changes to the proposed text are indicated in response to comment, new text is in bold font and deleted text is in strikethrough font.

#### **General comments regarding proposed R.C.S.A. section 22a-174-22c:**

**I. Comment regarding recommendation to proceed with CAIR rulemaking:** The Department and the Ozone Transport Commission (OTC) should proceed with its model rule for electric generating units (EGUs) in time for states to meet their CAIR submittal deadlines, *whether or not* an agreement can be reached with upwind jurisdictions on a super-regional CAIR Plus.

**Commenter submitting this comment:** 5

**Response:** The Department should proceed with its CAIR regulation on a schedule conducive to submittal of a timely CAIR SIP.

**2. Comment regarding rule development process:** One commenter was disappointed with the Department's process for developing the proposed rule. The commenter was under the impression that more opportunity would be available to discuss content of the proposed rule and felt that said rule would have benefited from more stakeholder input during its development.

**Commenter submitting this comment:** 3

**Response:** Although it is agreed that the draft regulation could have been improved by additional discussion, the Department did meet with stakeholders twice prior to the release of the draft regulation. Time available for additional discussion on the proposed regulation was limited due to EPA's March 2007 abbreviated SIP submittal deadline.

**3. Comment regarding recommendation that CAIR and NO<sub>x</sub> RACT programs remain separate:** The Department's draft proposal for R.C.S.A. section 22a-174-22 regarding Control of Nitrogen Oxide Emissions ("NO<sub>x</sub> RACT") inappropriately eliminates flexibility in Reasonably Available Control Technology (RACT) implementation and inappropriately imposes additional burdens on ozone season CAIR compliance. The commenter is not challenging the proposed RACT emissions levels, but strongly opposes elimination of the Discrete Emissions Reduction Credit (DERC) program that provides cost-effective compliance flexibility.

Maintaining the DERC program will enable sources to effectively average emissions performance across units to achieve cost-effective compliance. Elimination of the ability to use DERCs will add significant, unnecessary costs to the program, which will hurt generators and ratepayers.

As proposed, the only flexibility in the RACT program will be to allow for the use of CAIR allowances during the ozone and non-ozone seasons to compensate for emissions rates above the proposed RACT levels at certain units. This approach effectively tightens the CAIR program, forces units to consider using what are supposed to be ozone season allowances for non-ozone season compliance, and eliminates cost-effective averaging from the RACT program.

**Commenter submitting this comment:** 3

**Response:** As NO<sub>x</sub> RACT and DERCs are not discussed in this proposal, this comment is outside of the scope of this hearing and may be better addressed in the hearing report for proposed R.C.S.A. section 22a-174-22.

### Specific comments regarding proposed R.C.S.A. section 22a-174-22c

#### A. Definitions

*Note recommendation to number definitions in comment 1 of the Additional Comments of the Hearing Officer section of this report.*

**1. Comment on R.C.S.A. section 22a-174-22c(a):** R.C.S.A. section 22a-174-22c(a) states that definitions of terms replace definitions of the same terms in 40 CFR 96.302. For some of these terms (i.e., "Cogeneration Unit," "Fossil-fuel-fired," "Nameplate capacity," and "Permitting authority"), replacement of the 40 CFR 96.302 definitions by subsection (a) definitions would result in substantive changes to the model NO<sub>x</sub> ozone season trading rule, which are not allowed.

Moreover, there is an inconsistency with subdivision (i)(1)(A) that makes definitions in 40 CFR 96.302 applicable in incorporated sections of the model NO<sub>x</sub> ozone season trading rule. The commenter provides ways to clarify when the subsection (a) definitions for “Cogeneration Unit,” “Fossil-fuel-fired,” “Nameplate capacity,” and “Permitting authority” apply.

**Commenter submitting this comment:** 9

**Response:** Please see responses to comments 3, 7, 8 and 11 in this section and comment 1 in section G of this report.

**2. Comment on the definition of “CAIR NO<sub>x</sub> Ozone Season unit”:** In subparagraph (A) of the definition of “CAIR NO<sub>x</sub> Ozone Season unit”, such unit is stated to be defined as in 40 CFR 96.302. However, the definition in 40 CFR 96.302 includes CAIR NO<sub>x</sub> Ozone Season opt-in units, which is contrary to Connecticut’s intent not to allow opt-in units beyond those covered by EPA’s NO<sub>x</sub> SIP Call. Therefore, subparagraph (A) should be revised to read: “(A) Is a ‘CAIR NO<sub>x</sub> Ozone Season unit’ under 40 CFR 96.304.”

In addition, language in each of subdivisions (i) through (iv) of subparagraph (B) of the definition of “CAIR NO<sub>x</sub> Ozone Season unit” must be the same as in Connecticut’s NO<sub>x</sub> Budget Trading Program rule to cover all units that are not covered by 40 CFR 96.304. Therefore, the phrase “between fifteen (15) and twenty-five (25) megawatts” in subdivisions (i) and (iv) must instead read: “of fifteen (15) megawatts or more.” Without this change, some units under the NO<sub>x</sub> Budget Trading Program may be excluded from the CAIR NO<sub>x</sub> Ozone Season Trading Program. For example, a unit operating during May-September 1990 serving a generator of greater than 25 megawatts and not producing electricity for sale would be covered by Connecticut’s NO<sub>x</sub> Budget Trading Program but not by subdivision (B)(i) of the definition of CAIR NO<sub>x</sub> Ozone Season unit”.

**Commenter submitting this comment:** 9

**Response:** The Department should revise the definition of “CAIR NO<sub>x</sub> Ozone Season unit” as follows:

“CAIR NO<sub>x</sub> Ozone Season unit” means a unit that:

- (A) Is a “CAIR NO<sub>x</sub> Ozone Season unit” as defined in **under 40 CFR 96.3024**; or
- (B) Satisfies the criteria in one of the following subparagraphs:
  - (i) Is a fossil-fuel-fired emission unit that operated at any time during the period from May through September 1990 and that serves a generator with a nameplate capacity ~~between fifteen (15) and twenty-five (25) megawatts~~ **of fifteen (15) megawatts or more,**
  - (ii) Is a fossil-fuel-fired emission unit that serves a generator that generates electricity at a rated output of fifteen (15) megawatts or more by employing “cogeneration technology”, as defined in section 16-1(a)(21) of the Connecticut General Statutes,

- (iii) Is a fossil-fuel-fired boiler or indirect heat exchanger with a maximum design heat input of 250 MMBtu/hr or more, or
- (iv) Is a fossil-fuel-fired emission unit that began operating after September 30, 1990 and that serves a generator that generates electricity at a rated output ~~between fifteen (15) and twenty five (25) megawatts of fifteen (15) megawatts or more.~~

**3. Comment on the definition of "Cogeneration unit":** The term "Cogeneration Unit" is used as a category of CAIR NO<sub>x</sub> Ozone Season units in order to apply a specified allocation formula. Does Connecticut intend that any CAIR NO<sub>x</sub> Ozone Season unit that meets the term's definition (i.e., whether the unit is covered by subparagraph (A) or subparagraph (B) of the "CAIR NO<sub>x</sub> Ozone Season unit" definition) be allocated allowances as a "Cogeneration Unit"? If so, then Connecticut must remove the phrase "with regard to an emission unit that is a CAIR NO<sub>x</sub> Ozone Season unit pursuant to subparagraph (B) of the definition of 'CAIR NO<sub>x</sub> Ozone Season unit' in subsection (a) of this section."

In place of this phrase, Connecticut must add the phrase "solely for purposes of subsection (e) of this section". This is because 40 CFR 96.302 already defines "Cogeneration unit" for purposes of other definitions in 40 CFR 96.302 and for 40 CFR 96.304.

**Commenter submitting this comment: 9**

**Response:** The Department should revise the definition of "Cogeneration Unit" as follows:

~~"Cogeneration Unit" means, with regard to an emission unit that is a CAIR NO<sub>x</sub> Ozone Season unit pursuant to subparagraph (B) of the definition of "CAIR NO<sub>x</sub> Ozone Season unit" in subsection (a) of this section,~~ **solely for purposes of subsection (e) of this section,** a stationary, fossil-fuel-fired emission unit that serves a generator that generates electricity at a rated output of fifteen (15) megawatts or more by employing "cogeneration technology" as defined in section 16-1(a)(21) of the Connecticut General Statutes.

**4. Comment on the definition of "Commence commercial operation":** The definition of "Commence commercial operation" needs to be revised, particularly as this term is used only in the incorporated provisions of the model NO<sub>x</sub> Ozone Season trading rule. Connecticut must use language that generally parallels language in Connecticut's "Commence operation" definition (and in the "Commence commercial operation" and "Commence operation" definitions in 40 CFR 96.302). Under this approach, the definition must read:

"Commence commercial operation" means, with regard to a unit:

(A) To have begun to produce steam, gas, or other heated medium used to generate electricity for sale or use, including test generation, except as provided in 40 CFR 96.305.

(i) For a unit that is a CAIR NO<sub>x</sub> Ozone Season unit on the later of November 15, 1990 or the date the unit commences commercial operation as defined in subparagraph (A) of this definition and that subsequently undergoes a physical change (other than replacement of the unit by a unit at the same source), such date

shall remain the date of commencement of commercial operation of the unit, which shall continue to be treated as the same unit.

(ii) For a unit that is a CAIR NO<sub>x</sub> Ozone Season unit on the later of November 15, 1990 or the date the unit commences commercial operation as defined in subparagraph (A) of this definition and that is subsequently replaced by a unit at the same source (e.g., repowered), such date shall remain the replaced unit's date of commencement of commercial operation, and the replacement unit shall be treated as a separate unit with a separate date for commencement of commercial operation as defined in subparagraph (A) or (B) of this definition as appropriate.

(B) Notwithstanding subparagraph (A) of this definition and except as provided in 40 CFR 96.305, for a unit that is not a CAIR NO<sub>x</sub> Ozone Season unit on the later of November 15, 1990 or the date the unit commences commercial operation as defined in subparagraph (A) of this definition, the unit's date for commencement of commercial operation shall be the date on which the unit becomes a CAIR NO<sub>x</sub> Ozone Season unit.

(i) For a unit with a date for commencement of commercial operation as defined in subparagraph (B) of this definition and that subsequently undergoes a physical change (other than replacement of the unit by a unit at the same source), such date shall remain the date of commencement of commercial operation of the unit, which shall continue to be treated as the same unit.

(ii) For a unit with a date for commencement of commercial operation as defined in subparagraph (B) of this definition and that is subsequently replaced by a unit at the same source (e.g., repowered), such date shall remain the replaced unit's date of commencement of commercial operation, and the replacement unit shall be treated as a separate unit with a separate date for commencement of commercial operation as defined in subparagraph (A) or (B) of this definition as appropriate.

(C) Notwithstanding subparagraphs (A) and (B) of this definition, for a unit not serving a generator producing electricity for sale, the unit's date of commencement of operation shall also be the unit's date of commencement of commercial operation.

As written, Connecticut's "Commence commercial operation" is not complete and does not explain that a unit undergoing physical change must continue to be treated as the same unit, and that a replacement unit is treated as a separate unit.

**Commenter submitting this comment:** 9

**Response:** The Department should revise the definition of "Commence commercial operation" as follows:

~~"Commence commercial operation" means, with regard to a unit, to have begun to produce steam, gas or other heated medium used to generate electricity for sale or use, including test generation, except as provided in 40 CFR 96.305 and in the following subparagraphs:~~

~~(A) For a unit that is a CAIR NO<sub>x</sub> Ozone Season unit on the later of November 15,~~

~~1990 or the actual date on which the unit commences commercial operation as defined above, the date the unit commences commercial operation shall not change if the unit subsequently undergoes a physical change including replacement;~~

~~(B) For a unit that is not a CAIR NO<sub>x</sub> Ozone Season unit on the later of November 15, 1990 or the actual date on which the unit commences commercial operation as defined above, the date the unit commences commercial operation shall be the date on which the unit becomes a CAIR NO<sub>x</sub> Ozone Season unit. Such date shall remain the date of commencement of commercial operation if the unit subsequently undergoes a physical change including replacement;~~

~~(C) For a unit that replaces a CAIR NO<sub>x</sub> Ozone Season unit, such replacement unit shall have a date of commencement of commercial operation determined as indicated in this definition; and~~

~~(D) For a unit not serving a generator producing electricity for sale, the unit's date of commencement of commercial operation shall be the unit's date of commencement of operation. :~~

**(A) To have begun to produce steam, gas, or other heated medium used to generate electricity for sale or use, including test generation, except as provided in 40 CFR 96.305.**

**(i) For a unit that is a CAIR NO<sub>x</sub> Ozone Season unit on the later of November 15, 1990 or the date the unit commences commercial operation as defined in subparagraph (A) of this definition and that subsequently undergoes a physical change (other than replacement of the unit by a unit at the same source), such date shall remain the date of commencement of commercial operation of the unit, which shall continue to be treated as the same unit.**

**(ii) For a unit that is a CAIR NO<sub>x</sub> Ozone Season unit on the later of November 15, 1990 or the date the unit commences commercial operation as defined in subparagraph (A) of this definition and that is subsequently replaced by a unit at the same source (e.g., repowered), such date shall remain the replaced unit's date of commencement of commercial operation, and the replacement unit shall be treated as a separate unit with a separate date for commencement of commercial operation as defined in subparagraph (A) or (B) of this definition as appropriate.**

**(B) Notwithstanding subparagraph (A) of this definition and except as provided in 40 CFR 96.305, for a unit that is not a CAIR NO<sub>x</sub> Ozone Season unit on the later of November 15, 1990 or the date the unit commences commercial operation as defined in subparagraph (A) of this definition, the unit's date for commencement of commercial operation shall be the date on which the unit becomes a CAIR NO<sub>x</sub> Ozone Season unit.**

**(i) For a unit with a date for commencement of commercial operation as defined in subparagraph (B) of this definition and that subsequently undergoes a**



physical change (other than replacement of the unit by a unit at the same source), such date shall remain the date of commencement of commercial operation of the unit, which shall continue to be treated as the same unit.

- (ii) For a unit with a date for commencement of commercial operation as defined in subparagraph (B) of this definition and that is subsequently replaced by a unit at the same source (e.g., repowered), such date shall remain the replaced unit's date of commencement of commercial operation, and the replacement unit shall be treated as a separate unit with a separate date for commencement of commercial operation as defined in subparagraph (A) or (B) of this definition as appropriate.

- (C) Notwithstanding subparagraphs (A) and (B) of this definition, for a unit not serving a generator producing electricity for sale, the unit's date of commencement of operation shall also be the unit's date of commencement of commercial operation.

5. **Comment on the definition of "Control season":** Although "control season" is defined in 40 CFR 96 subpart AAAA, it is recommended that the definition also be included in the proposed R.C.S.A. section 22a-174-22c.

**Commenter submitting this comment: 2**

**Response:** Please note that the term "control season" is not defined in 40 CFR 96 subpart AAAA and is not used in R.C.S.A. section 22a-174-22c. However, the term "control period" is defined in 40 CFR 96 subpart AAAA and is used in R.C.S.A. section 22a-174-22c. R.C.S.A. section 22a-174-22c(a) states that "...any term related to the administration of this section that is not defined in this subsection shall be as defined or described in 40 CFR 96 subpart AAAA...". As the commenter does not provide justification as to why a separate definition should be included in R.C.S.A. section 22a-174-22c, and the definition in question is already included in 40 CFR 96 subpart AAAA, the Department should not add a definition of "control season" (sic) to R.C.S.A. section 22a-174-22c.

6. **Comment on the definition of "Energy efficiency project":** First, the definition of an Energy Efficiency Project (EEP) could be made significantly more stringent. Under the current definition, any improvement above the minimum energy efficiency requirements of the state building code would be eligible for allowances. We believe the Department could require EEPs to meet or exceed an efficiency "stretch goal" to restrict the allocation of the limited pool of NO<sub>x</sub> allowances to highly efficient projects. For example, the Department could require a new building to exceed the ASHRAE 90.1 2004 standard by at least 10 percent. Similarly, the proposed criteria providing eligibility for the installation, replacement, or modification of any equipment fixtures or materials not required by law could be strengthened. The new equipment, fixtures, or materials could be required to at least meet or exceed EPA ENERGY STAR standards. Finally, the Department's proposed requirement for the simple commencement or modification of building or facility operation and maintenance procedures could be tightened to require some measure of improved efficiency.

Second, the definition of an "energy efficiency project" (EEP) should be modified. The inclusion in the definition of the term "stationary source" appears misplaced and will undermine

the effectiveness of the regulation in achieving its apparent intent of encouraging end-use efficiency.

Connecticut's Air Pollution Abatement Regulations expressly adopt the Clean Air Act's definition of a stationary source -- a large installation emitting more than a threshold level of a criteria pollutant. Later sections of the Department's proposed CAIR appear to use "stationary source" in this traditional sense.

In order to encourage end-use efficiency, we suggest that Connecticut follow the lead of other States with existing energy efficiency/renewable energy (EE/RE) set-asides. Such states have not defined EEP's as projects located at a "stationary source." For example, Massachusetts defines an EEP as an energy efficiency project at a "facility" in Massachusetts. Similarly, Indiana, New Jersey, New York, and Ohio allocate allowances in their set-asides to "end use efficiency projects." We recommend that the Department replace the term "stationary source" with the term "facility."

**Commenter submitting this comment: 10**

**Response:** Regarding the stringency of the definition for "energy efficiency project", several states that have existing energy efficiency set-aside provisions in their NO<sub>x</sub> Budget Programs do not appear to include energy efficiency stringency provisions similar to those mentioned by the commenter in their energy efficiency programs. Given that the proposed EE/RE set-aside allocation program is a new concept in Connecticut, the Department is encouraging subscription of the program, and the proposed regulation includes future EE/RE set-aside allocation program review provisions, including success in promoting energy efficiency, the Department should leave the proposed stringency of the "energy efficiency project" definition as is. However, the Department should consider the stringency of the "energy efficiency project" definition in the future EE/RE set-aside allocation program review.

Regarding the modification of the definition of "energy efficiency project", the term "stationary source" used in the definition simply clarifies that energy efficiency measures on mobile sources will not be considered as creditable for obtaining EE/RE set-aside allocations. The commenter seems to be confusing the definition of "major stationary source" with the definition of "stationary source". The term "Major stationary source", as defined in R.C.S.A section 22a-174-1 and 40 CFR 51.165(a)(1)(iv), refers to stationary sources emitting threshold levels of criteria pollutants. The term "Stationary source", as defined in R.C.S.A. section 22a-174-1 and 40 CFR 51.165(a)(1)(i), means any building, structure, facility, or installation which emits or may emit a regulated New Source Review (NSR) pollutant.

The Department should not make any changes to the definition of "energy efficiency project" as a result of this comment.

**7. Comment on the definition of "Fossil-fuel-fired":** The definition of "Fossil-fuel-fired" needs to reflect that the term is used in two ways in Connecticut's proposed rule, and that the term is already defined in 40 CFR 96.302 for purposes of other definitions in 40 CFR 96.302 and for 40 CFR 96.304. In subparagraph (B), the term must be defined as it is in Connecticut's NO<sub>x</sub> Budget Trading Program (i.e., using the same language as in Connecticut's proposed rule). When used in definitions of "Industrial Unit," "New Unit," "Phase I Unit," and "Phase II Unit," the broader definition of "Fossil-fuel-fired" in 40 CFR 96.302 is needed so that these allocation

categories will apply to CAIR NO<sub>x</sub> Ozone Season units under subparagraph (A) and subparagraph (B) of the "CAIR NO<sub>x</sub> Ozone Season unit" definition.

We recommend that Connecticut revise the definition of "Fossil-fuel fired" so that it has two parts. The first part must state that the term means "with regard to a unit combusting any amount of fossil fuel in any calendar year." The second part can use language in Connecticut's current definition of "Fossil-fuel-fired," but must replace the phrase "with regard to an emission unit that is a CAIR NO<sub>x</sub> Ozone Season unit pursuant to subparagraph (B) of the definition of 'CAIR NO<sub>x</sub> Ozone Season unit' in subsection (a) with the phrase "solely for purposes of applying subparagraph (B) of the definition of 'CAIR NO<sub>x</sub> Ozone Season unit' in subsection (a) of this section."

**Commenter submitting this comment:** 9

**Response:** The Department should revise the definition of "Fossil-fuel-fired" as follows:

~~"Fossil-fuel-fired" means, with regard to an emission unit that is a CAIR NO<sub>x</sub> Ozone Season unit pursuant to subparagraph (B) of the definition of "CAIR NO<sub>x</sub> Ozone Season unit":~~

- (A) **With regard to a unit, combusting any amount of fossil fuel in any calendar year; or**
- (B) **Solely for purposes of applying subparagraph (B) of the definition of "CAIR NO<sub>x</sub> Ozone Season unit" in subsection (a) of this section, the combustion of fossil fuel, any derivative of fossil fuel alone, or a combination of fuels, of which fossil fuel:**
  - (i) Comprises more than fifty percent (50%) of the annual heat input (in Btu) in 1990 or any year thereafter; or
  - (ii) Is projected to comprise more than fifty percent (50%) of the annual heat input (in Btu), provided that the Commissioner shall consider an emission unit as "fossil-fuel fired" upon the date such emission unit begins combusting fossil fuel.

**8. Comment on the definition of "Nameplate capacity":** In the definition of "Nameplate capacity," Connecticut must remove the phrase "with regard to an emission unit that is a CAIR NO<sub>x</sub> Ozone Season unit pursuant to subparagraph (B) of the definition of 'CAIR NO<sub>x</sub> Ozone Season unit' in subsection (a) of this section." This must be replaced by the phrase "solely for purposes of applying subparagraph (B) of the definition of 'CAIR NO<sub>x</sub> Ozone Season unit' in subsection (a) of this section." This definition is applied to each unit to determine if the unit qualifies as a CAIR NO<sub>x</sub> Ozone Season unit under subparagraph (B). In addition, 40 CFR 96.302 already defines "Nameplate capacity" for purposes of other definitions in 40 CFR 96.302 and for 40 CFR 96.304.

**Commenter submitting this comment:** 9

**Response:** The Department should revise the definition of "Nameplate capacity" as follows:

~~"Nameplate capacity" means, with regard to an emission unit that is a CAIR NO<sub>x</sub> Ozone Season unit pursuant to subparagraph (B) of the definition of 'CAIR NO<sub>x</sub> Ozone Season unit' in subsection (a) of this section,~~ **solely for purposes of applying subparagraph**

(B) of the definition of 'CAIR NO<sub>x</sub> Ozone Season unit' in subsection (a) of this section, the maximum electrical generating output (in MW electrical) that a generator can sustain over a specified period of time when not restricted by seasonal or other deratings as measured in accordance with the United States Department of Energy standards.

**9. Comment on the definition of "New Unit":** Under the definition of "New Unit," does Connecticut intend to count only the control periods when the unit is operating towards the 6 control periods for which the unit is defined as a "New Unit," or does the State intend to count every control period after initial operation, regardless of whether the unit operates during a specific control period? Must a unit actually be operating in the 7<sup>th</sup> control period to be allocated allowances as a Cogeneration Unit, Industrial Unit, or Phase II unit? The commenter requests that Connecticut clarify this provision.

Other commenters stated that it is not clear why the Department is encompassing six prior ozone seasons in its definition for new units. It is recommended that units in operation on or after May 1, 2009 should be considered new units.

**Commenters submitting this comment:** 6, 7, 9

**Response:** Although EPA uses the January 1, 2001 date in CAIR to establish New Unit status, and that is why the Department originally chose that date to establish New Unit status, states have the flexibility to use a different date to establish New Unit status.

However, states submitting an abbreviated CAIR SIP do not have the flexibility to allocate CAIR NO<sub>x</sub> Ozone Season allowances on a schedule different than that set forth at 71 FR 25372. As such, states must determine and notify the Administrator of CAIR NO<sub>x</sub> Ozone Season allocations for the 2009, 2010 and 2011 control periods no later than April 30, 2007. For the 2012 control period, states must determine and notify the Administrator of CAIR NO<sub>x</sub> Ozone Season allocations no later than October 31, 2008. For the 2013 and later control periods, states must determine and notify the Administrator of CAIR NO<sub>x</sub> Ozone season allocations for the control period in the fourth calendar year after the year in which the notification is to be submitted. As the Department felt that two years of operating data would be useful for determining allocations, and EPA requires notification of allocations four years forward in the 2013 and later control periods, the Department defined a "New Unit" as one operating for six control periods (or portion thereof) following the date of initial operation.

If, as the commenter suggests, a date of May 1, 2009 is chosen to establish New Unit status, the status of CAIR NO<sub>x</sub> Ozone Season Units commencing operation after April 30, 2007 and prior to May 1, 2009 might be unclear for the first years of the CAIR NO<sub>x</sub> Ozone Season Trading Program because the allocations for 2009-2011 are required to be submitted by April 30, 2007. Because EPA does not require the four year pre-notification of allocations until the 2012 control period, and the Department may have the necessary baseline data to move a New Unit into another category before the four year pre-notification, the Department should choose January 1, 2006 as the date to establish New Unit status in the CAIR NO<sub>x</sub> Ozone Season Trading Program. The Department should revise the definition of "New Unit" as follows:

"New Unit" means any fossil-fuel-fired unit that commences operation on or after January 1, 2006 and that serves a generator that generates electricity at a rated output of fifteen (15) megawatts or more, for the period of time commencing with initial operation through

~~operation during the sixth control period or portion thereof following date of initial operation. When operating during the seventh and later control periods, or portion thereof, following the date of initial operation, such a unit is no longer considered a New Unit but is considered, for the purpose of CAIR NO<sub>x</sub> Ozone Season allowance allocation for all control periods thereafter, a Cogeneration Unit, an Industrial Unit or a Phase II Unit.~~

The Department should also revise the allocation timing in proposed R.C.S.A. section 22a-174-22c(d)(2) as follows so that a New Unit's categorization in the first three years of the CAIR NO<sub>x</sub> Ozone Season Trading Program can change sooner than after six control periods (or portion thereof):

22a-174-22c(d)(2)

For New Units, the Commissioner shall allocate CAIR NO<sub>x</sub> Ozone Season allowances according to the following schedule as follows:

- (A) ~~For operation during the first six control periods or portions thereof following the date of commencement of operation, the Commissioner shall determine and notify the Administrator of each New Unit's allocation of CAIR NO<sub>x</sub> Ozone Season allowances no later than July 31 of the control period for which the CAIR NO<sub>x</sub> Ozone Season allowances are allocated; and~~ **A New Unit commencing operation between January 1 and September 30, 2006:**
- (i) **Shall be considered a New Unit for the purpose of allocating CAIR NO<sub>x</sub> Ozone Season allowances during the 2009-2011 control periods, and**
  - (ii) **Shall be considered a Cogeneration Unit, an Industrial Unit or a Phase II Unit for the purpose of allocating CAIR NO<sub>x</sub> Ozone Season allowances for the 2012 and later control periods;**
- (B) ~~For operation during the seventh and later control periods following the date of commencement of operation, the Commissioner shall determine and notify the Administrator of each former New Unit's allocation of CAIR NO<sub>x</sub> Ozone Season allowances according to the schedule set forth in subdivision (1) of this subsection.~~ **A New Unit commencing operation between October 1, 2006 and September 30, 2007:**
- (i) **Shall be considered a New Unit for the purpose of allocating CAIR NO<sub>x</sub> Ozone Season allowances during the 2009-2012 control periods, and**
  - (ii) **Shall be considered a Cogeneration Unit, an Industrial Unit or a Phase II Unit for the purpose of allocating CAIR NO<sub>x</sub> Ozone Season allowances for the 2013 and later control periods;**
- (C) **A New Unit commencing operation between October 1, 2007 and September 30, 2008:**

- (i) Shall be considered a New Unit for the purpose of allocating CAIR NO<sub>x</sub> Ozone Season allowances during the 2009-2013 control periods, and
  - (ii) Shall be considered a Cogeneration Unit, an Industrial Unit or a Phase II Unit for the purpose of allocating CAIR NO<sub>x</sub> Ozone Season allowances for the 2014 and later control periods; and
- (D) A New Unit commencing operation after September 30, 2008:
- (i) Shall be considered a New Unit for the period of time commencing with initial operation through operation during the sixth control period or portion thereof following date of initial operation, and
  - (ii) Shall be considered a Cogeneration Unit, an Industrial Unit or a Phase II Unit for the purpose of allocating CAIR NO<sub>x</sub> Ozone Season allowances for the seventh and later control periods.

Due to the recommended elimination of language previously contained in proposed section 22a-174-22c(d)(2)(A), and in order to meet the requirements stated at 71 FR 25372, the Department should also add a new subdivision to section 22a-174-22c(d) as follows:

22a-174-22c(d)

(3) For New Units, the Commissioner will determine and notify the Administrator of each New Unit's allocation of CAIR NO<sub>x</sub> Ozone Season allowances by July 31 of the year for which the CAIR NO<sub>x</sub> Ozone Season allowances are allocated.

Finally, as a result of the above recommended change to R.C.S.A. section 22a-174-22c(d)(2), the Department should revise the definition of Phase II unit as follows:

"Phase II Unit" means a fossil-fuel-fired unit that began operating on or after November 15, 1990, that serves a generator that generates electricity at a rated output of fifteen (15) megawatts or more and that is operating in the seventh or later control period following the date of commencement of initial operation. For the purposes of this definition, operation during any portion of a control period qualifies as operation in that control period.

*Also note new recommended language for R.C.S.A. section 22a-174-22c(d)(2) in response for comment 10 in section E of this report.*

**10. Comment on the definition of "Normal System Operation":** The commenter suggests that Connecticut add a reference to R.C.S.A. section 22a-174-18 (Control of particulate matter and visible emissions) to the definition of "Normal System Operation". This will ensure that exceptions to normal conditions (e.g., startup, shutdown, soot-blowing, malfunctions) are accurately identified so that it is clear which periods of time are excluded for purposes of allowance allocation under section 22a-174-22c(f). This term does not affect emissions monitoring requirements under 40 CFR part 96, subpart HHHH.

Commenter submitting this comment: 9

**Response:** The excepted activities descriptions that the commenter refers to in R.C.S.A. section 22a-174-18 are in the context of visible emissions and are not relevant to NO<sub>x</sub>. Therefore, the Department should not change the definition of “Normal system operation” as a result of this comment.

**11. Comment on the definition of “Permitting authority”:** The definition of “Permitting authority” limits the term to the Connecticut Commissioner. In some instances, however, where the term is used in the model CAIR NO<sub>x</sub> Ozone Season Trading Program, the term must include all permitting authorities in States that choose to participate in the EPA-administered trading program. In particular, to ensure that all CAIR Ozone Season NO<sub>x</sub> allowances issued in the EPA-administered CAIR Program are fungible and can be traded and used for compliance with the allowance-holding requirements in any of the States in the EPA CAIR program, the term of “permitting authority” in the definitions of the terms “allocate” and “CAIR NO<sub>x</sub> Ozone Season allowance” must refer to any permitting authority in any of the States that are participating in the program, not just to the Connecticut permitting authority or “Commissioner.” Therefore, in Connecticut’s definition of “Permitting authority,” Connecticut needs to add the following phrase: “except for purposes of the definitions of “Allocate or allocation” and “CAIR NO<sub>x</sub> Ozone Season allowance” in 40 CFR 96.302”.

**Commenter submitting this comment:** 9

**Response:** The Department should revise the definition of “Permitting authority” as follows:

“Permitting authority” shall mean “Commissioner” as defined in section 22a-174-1 of the Regulations of Connecticut State Agencies, **except for purposes of the definitions of “Allocate or allocation” and “CAIR NO<sub>x</sub> Ozone Season allowance” in 40 CFR 96.302.**

**12. Comment on the definition of “Phase I Unit”:** If the Department does not change the allowance allocation methodology as the commenter suggests (see **comment 7 in section E of this report**), the Department should allow the commenter the option of being allocated allowances as a Phase I Unit. Section 22a-174-22c(a) defines “Phase I Unit” as “a CAIR NO<sub>x</sub> Ozone Season unit that is a fossil-fuel-fired unit operated at any time prior to November 15, 1990 and that serves a generator with a nameplate capacity of fifteen (15) megawatts or more.” The commenter operated prior to November 15, 1990, and therefore should not be treated less beneficially than the other Phase I units. According to the data in the Department’s draft preliminary analysis of CAIR allowance allocations, the commenter produced 529,509 Mwh during the 2005 ozone season. Using this power production figure and the 1.5 lb/Mwh allocation method allowed by the proposed regulations for Phase I Units, the commenter should be entitled to 397 tons of ozone season credits. If that power production was normalized for a non-transmission line failure year (651,600 Mwh) the commenter would be entitled to receive 488 tons of allowances.

The Department’s draft preliminary analysis of CAIR allowance allocations reveals that the proposed rule, if interpreted not to treat the commenter as a Phase I Unit, will penalize the commenter for producing clean electric power (without even taking into account the reuse of cogenerated steam production). For example, the New Haven Harbor Station emits NO<sub>x</sub> at almost three times the NO<sub>x</sub> emission rate of the commenter, produces two thirds of the ozone

season electricity, but would be allocated over two times as many allowances as the commenter. Another example is Montville 6. The commenter produced 3.5 times the electricity, but would receive only 15 more CAIR allowances.

This inconsistency in treatment could be corrected by adding language to section 22a-174-22c(e)(1), as follows:

(1) In applying the provisions of this subsection to a CAIR NO<sub>x</sub> Ozone Season unit, such unit shall be categorized as a Phase I Unit, a Cogeneration Unit, an Industrial Unit, a New Unit or a Phase II Unit, as applicable. *If a Unit falls within more than one category, the Unit owner/operator may select the category of Unit that it shall be considered for purposes of this section 22a-174-22c, by notifying the Commissioner in writing at least 30 days prior to the date that the Commissioner allocates allowances under section 22a-174-22c(d).*

**Commenter submitting this comment: 16**

**Response:** The Department should not add the suggested language to R.C.S.A. section 22a-174-22c(e)(1) because arbitrarily changing the category in which a unit is placed can cause the allocations to vary by large amounts in an unpredictable manner. However, the Department should add the following language to R.C.S.A. section 22a-174-22c(e)(1) in order to clarify that units meeting the definition of Cogeneration Unit or Industrial Unit may not be categorized in any other category (after moving from the New Unit category, if applicable):

R.C.S.A. section 22a-174-22c(e)(1)

In applying the provisions of this subsection to a CAIR NO<sub>x</sub> Ozone Season unit, such unit shall be categorized as a Phase I Unit, a Cogeneration Unit, an Industrial Unit, a New Unit or a Phase II Unit, as applicable. **CAIR NO<sub>x</sub> Ozone Season units meeting the definition of Cogeneration Unit shall not be categorized as a Phase I Unit, Industrial Unit or a Phase II Unit. CAIR NO<sub>x</sub> Ozone Season units meeting the definition of Industrial Unit shall not be categorized as a Phase I Unit, Cogeneration Unit or a Phase II Unit.**

*Also note recommended language change to this section in response to comment 10 in section E of this report.*

**13. Comment on the definition of “Proponent”:** Energy efficiency and renewable energy resources are to be represented in the program by a “proponent”, which is defined as the entity “who owns, leases, operates or controls” the facility. Unfortunately, one generator could have separate entities filling all of these roles, creating a conflict over who represents the facility in the program. Rather than set up this conflict, energy efficiency and renewable energy facilities should be represented only by their owner. Contractual provisions could transfer this role to other entities if required without creating a potential conflict.

**Commenter submitting this comment: 13**

**Response:** Proposed R.C.S.A. section 22a-174-22c(f)(3)(E) states that more than one Proponent submitting an application for the same project for the same calendar year may result in the Commissioner refusing to accept such application. Several other states with existing EE/RE set-aside allocation programs have a similar provision. The Department should not change the definition of “Proponent” as a result of this comment but should reexamine this issue in the



future EE/RE set-aside allocation program review after the Department has some experience implementing the program.

## **B. Applicability**

**1. Comment regarding the inclusion of cogeneration and industrial units in the CAIR NO<sub>x</sub> Ozone Season Trading Program:** The commenters recommend that cogeneration and industrial units be excluded from the CAIR NO<sub>x</sub> Ozone Season Trading Program.

**Commenters submitting this comment:** 6, 7

**Response:** The commenters provide no justification for the recommendation that cogeneration and industrial units be excluded from the CAIR NO<sub>x</sub> Ozone Season Trading Program. In fact, three of the four cogeneration units included in Connecticut's CAIR NO<sub>x</sub> Ozone Season Trading Program are considered CAIR NO<sub>x</sub> Ozone Season units pursuant to 40 Code of Federal Regulations (CFR) 96.304, and the Department would be precluded from excluding such cogeneration units from the CAIR NO<sub>x</sub> Ozone Season Trading Program.

As stated in section IV of this report, at 70 FR 25290 EPA says that if NO<sub>x</sub> SIP Call states do not choose to use EPA's CAIR Ozone Season Trading Program to achieve NO<sub>x</sub> SIP Call required reductions from non-EGU boilers and turbines, "...they would be required to submit a SIP revision deleting the requirements related to non-EGU participation in the NO<sub>x</sub> SIP Call Budget Trading Program and replacing them with new requirements that achieve the same level of reduction." It is unclear how Connecticut would achieve SIP Call levels of reduction from the smallest cogeneration unit and the industrial units within the time constraints of CAIR implementation if such units were not included in Connecticut's CAIR NO<sub>x</sub> Ozone Season Trading Program. The Department should not exclude cogeneration and industrial units from Connecticut's CAIR NO<sub>x</sub> Ozone Season Trading Program.

**2. Comment regarding proposed R.C.S.A. section 22a-174-22c(b)(2):** Subparagraph (A) of the definition of "CAIR NO<sub>x</sub> Ozone Season unit" already includes the exemption for certain solid waste incineration units by referencing either 40 CFR 96.302 or 96.304. Therefore, Connecticut should remove subdivision (b)(2) because it is redundant.

**Commenter submitting this comment:** 9

**Response:** The Department should remove proposed R.C.S.A. section 22a-174-22c(b)(2), reword proposed R.C.S.A. section 22a-174-22c(b)(1) and renumber proposed R.C.S.A. section 22a-174-22c(b)(3), as follows:

(1) ~~Except as provided in subdivision (2) of this subsection,~~ This section shall apply to the owner or operator of a CAIR NO<sub>x</sub> Ozone Season unit.

(2) ~~— Notwithstanding subdivision (1) of this subsection, this section shall not apply to the owner or operator of a solid waste incineration unit as described in 40 CFR 96.304(b)(2).~~

(3)(2) Except as provided in subsection (i) of this section, the requirements of section 22a-174-22b of the Regulations of Connecticut State Agencies shall not apply to the owner or operator of a CAIR NO<sub>x</sub> Ozone Season unit on and after May 1, 2009.

*See response to comment 3 of this section of this report for additional recommended language change to this subdivision.*

**3. Comment regarding proposed R.C.S.A. section 22a-174-22c(b)(3):** The commenter notes that it is possible that, for some units, activities related to compliance with the 2008 ozone season (e.g., resubmission of quarterly emission reports or petitions for alternatives to part 75 monitoring and reporting requirements, as well as excess emission penalty deductions) could be ongoing on or after May 1, 2009. Therefore, Connecticut should replace subdivision (b)(3) with the following:

“Except as provided in subsection (i)(4) of this section, the provisions of section 22a-174-22b of the Regulations of Connecticut State Agencies shall not apply to the control period beginning May 1, 2009 and any control period thereafter.”

**Commenter submitting this comment: 9**

**Response:** The Department should revise proposed R.C.S.A. section 22a-174-22c(b)(3) as follows:

Except as provided in subsection (i)(4) of this section, the requirements of section 22a-174-22b of the Regulations of Connecticut State Agencies shall not apply to the ~~owner or operator of a CAIR NO<sub>x</sub> Ozone Season unit on and after~~ **control period beginning May 1, 2009; and any control period thereafter.**

*Note that proposed R.C.S.A. section 22a-174-22c(b)(3) has been recommended to be renumbered as R.C.S.A. section 22a-174-22c(b)(2) pursuant to the response to comment 2 of this section of this report.*

### C. Connecticut emission budget

**1. Comment regarding inclusion of units not covered by 40 CFR 96.304:** Connecticut’s proposed rule includes all NO<sub>x</sub> Budget Trading Program units in Connecticut in the CAIR NO<sub>x</sub> ozone season trading program, including those units not covered by 40 CFR 96.304. To include these added units, the State proposes to increase its CAIR NO<sub>x</sub> ozone season budget by 132 tons. The commenter requests that Connecticut include documentation (such as a spreadsheet) in the State’s CAIR SIP submission regarding this proposal, including an explanation that this increased amount was derived from the budget methodology in the NO<sub>x</sub> SIP Call that includes a 60% reduction from uncontrolled emissions from non-electric generating units.

**Commenter submitting this comment: 9**

**Response:** The Department should include a spreadsheet (such as Exhibit 4 of this hearing report) in the Department’s CAIR SIP submission regarding R.C.S.A. section 22a-174-22c. The Department should include an explanation that the 132 tons to be added to Connecticut’s CAIR

NO<sub>x</sub> Ozone Season budget were derived from the budget methodology in the NO<sub>x</sub> SIP Call that includes a 60% reduction from uncontrolled emissions from non-electric generating units.

**2. Comment regarding allowance allocations for Exeter Energy:** Consistent with applicability provisions in subsection (b) and 40 CFR 96.304, Connecticut is including Exeter Energy as a facility that is subject to section 22a-174-22c. Like all CAIR NO<sub>x</sub> Ozone Season units, any allowance allocations for Exeter Energy must come from Connecticut's CAIR NO<sub>x</sub> ozone season budget. This budget includes the amount stated in 40 CFR 96.340 for Connecticut plus the additional 132 tons for NO<sub>x</sub> Budget units added to the CAIR program.

**Commenter submitting this comment:** 9

**Response:** The Department sent a letter dated September 1, 2006 to EPA requesting that Connecticut's CAIR NO<sub>x</sub> Ozone Season budget be increased due to the fact that EPA did not include Exeter Energy in any of the NO<sub>x</sub> SIP Call Ozone season budget calculations for Connecticut. The NO<sub>x</sub> SIP Call budget is the basis for Connecticut's CAIR NO<sub>x</sub> Ozone Season budget. The Department has not received a response to the September 1 letter. EPA's comment implies that Connecticut's CAIR NO<sub>x</sub> Ozone Season budget will not be increased as a result of the inclusion of Exeter Energy as a CAIR NO<sub>x</sub> Ozone Season unit. The Department understands that the CAIR NO<sub>x</sub> Ozone Season allowance allocation for Exeter Energy comes from Connecticut's CAIR NO<sub>x</sub> ozone season budget stated in 40 CFR 96.340 plus the additional 132 tons for NO<sub>x</sub> Budget units added to the CAIR program, but does not agree with EPA's decision.

#### D. Allocation timing

**1. Comment regarding allocating timing for New Units:** The commenter suggests that Connecticut consider modifying its definition of "New Unit" and its allocation timing provisions concerning New Units. Because allowances are allocated to existing units several years in advance, it seems possible for a New Unit to operate for 6 years and lose its qualification as a New Unit, but find that all allowances available for existing units for its 7<sup>th</sup> year of operation have already been allocated. In that event, the unit would be unable to get allowances either as an existing unit or as a New Unit.

The commenter revised the CAIR model trading rule allocation procedures in 40 CFR 96.342(c) to address this type of problem. Connecticut should consider using an approach similar to that in the commenter's revised language in 40 CFR 96.342(c).

**Commenter submitting this comment:** 9

**Response:** See response to comment 9 in section A of this report.

#### E. CAIR NO<sub>x</sub> Ozone Season allowance allocations

**1. Comment regarding allocation of allowances to generators:** Two commenters recommend auctioning 100% of the CAIR NO<sub>x</sub> Ozone Season allowances proposed to be allocated to electricity generating units. The commenters object to allocating allowances to electric generators for free and argue that air quality is a public good that polluters do not have a right to spoil. Most generators, and all economists one commenter is aware of, agree that an allowance, whether allocated for free or purchased, has an opportunity cost as it can be used for compliance,

banked, or sold to others. Under this rule, NO<sub>x</sub> allowances will be allocated based on a unit's emissions, built into the bid prices, and then charged to the public. Connecticut consumers are already paying generators very significant amounts of money in the form of congestion payments and the forthcoming Forward Capacity Market payments – Connecticut should not add free allowances to this already very significant stream of payments. Therefore, all NO<sub>x</sub> allowances should be auctioned to electricity generating units with the auction proceeds to benefit the public. The program should start with a 100% auctioning of allowances to be used for end-user energy efficiency programs, and potentially also for direct rebates to consumers. It is important that this revenue be held to a strict additionality test and not displace existing efficiency funds or support activities that would have happened otherwise.

One of the commenters suggests that if 100% is not the starting point for auctioning electric generator's CAIR NO<sub>x</sub> Ozone Season allowances, at the least a majority of said allowances should be auctioned, with the percentage of auctioned allowances quickly growing to 100%. All of the states in the Regional Greenhouse Gas Initiative (RGGI) process agreed that at a minimum 25% of a state's allowances, or permits to emit one ton of CO<sub>2</sub>, will be allocated for consumer benefit or strategic energy purposes. Previous cap and trade programs, created prior to electricity restructuring, did not face the same issues, as cost of service regulations allowed excess profits to be returned to ratepayers; the electric markets are very different today than when the SO<sub>2</sub> and NO<sub>x</sub> programs were first created. As a part of utility restructuring, part of the deal with moving to competitive markets was that generators took on regulatory risk in exchange for a significantly freer and less regulated market. Although the quantity and value of allowances being issued by Connecticut under the CAIR program is significantly smaller than those to be allocated under RGGI, there are important precedent setting considerations in relation to other upwind states within CAIR that have much larger allowance budgets. Connecticut is deciding how to allocate allowances valued at between \$2.5 and \$5 million. This value, which will be passed on to the state's electric ratepayers could instead be auctioned with the proceeds invested in energy efficiency programs. An investment of the allowance value in energy efficiency programs would save the state's ratepayers between \$10 and \$20 million (savings of \$4 or more for every dollar invested in energy efficiency).

Assuming there is a large auction or allocation to consumers, the provisions for a set-aside for renewables and efficiency should be removed and replaced with auction/consumer allocation provisions. It is one commenter's understanding from talking to regulators and experts that renewables and efficiency set-aside programs as they have been designed in other states have not been especially successful. The transaction costs for both the project developer and the state agency are high and the amount of money distributed per project is low, which has led to low demand for allowances even though renewable energy and efficiency projects are being built. The auction proposal is designed to reduce transaction costs and ensure that the allowances and their full value are used by programs and projects they are designed to support.

There are important differences between electric generators and industrial units such as boilers and combined heat and power (CHP) units that serve a host facility. Electric generators sell into a regional market and submit bids based on their marginal costs (includes the value of an emissions allowance) but industrial plants that operate in national or international markets may not be able to pass on the cost of compliance to their customers. Allowances should be sold or auctioned to electric generating units and allocated to industrials, until a more detailed assessment has been conducted of the economic impacts of different allocation schemes on industrial units.

**Commenters submitting this comment:** 4, 5

**Response:** States do have the option to auction allowances pursuant to 71 Federal Register (FR) 25346. However, there are several unanswered questions at this time regarding the implementation of an allowance auction as well as distribution of the revenue stream generated from such auction. It is not clear if the commenters' intended goal for distribution of the auction revenue stream would be realized. In addition, it may be cumbersome to have the electricity generating unit portion of Connecticut's CAIR NO<sub>x</sub> Ozone Season budget set up as an auction and the industrial unit portion of Connecticut's CAIR NO<sub>x</sub> Ozone Season budget set up as an allowance allocation process. Given the time constraints for CAIR NO<sub>x</sub> Ozone Season Trading Program implementation with the possibility of the CAIR FIP being imposed on Connecticut if a timely CAIR SIP is not submitted, the Department should not auction CAIR allowances to electric generating units at this time. However, as the Department may gain experience with allowance auctions through the RGGI program, the Department should conduct a review of its CAIR NO<sub>x</sub> Ozone Season allowance allocation methodology in 2010. The Department should add a new section 22a-174-22c(e)(10) to the proposed regulation as follows:

**(10) In 2010, the Commissioner may conduct a review of the CAIR NO<sub>x</sub> Ozone Season allowance allocation methodology in this subsection.**

**2. Comment regarding math error in allocation categories resulting in loss of one ton from budget:** Two commenters point out that it appears that one ton has been lost from the budget. Specifically, as per section 22a-174-22c(c)(1), the total Connecticut emission budget is 2,691 tons of NO<sub>x</sub> during each control period beginning in 2009. Under subsection (e), for 2009 through 2014, 2,356 tons are allotted to all sources other than new units; 200 tons are allotted to new sources; and 134 tons are allotted as an energy efficiency and renewable energy set-aside. Adding 2,356 to 200 and 134 equals 2,690; one ton less than the budget allows. Similarly, for 2015 and beyond, 2,422 tons are allotted to all sources other than new units; 134 tons to new sources; and 134 tons are allotted as a set aside to energy efficiency and renewable energy projects. This also adds up to 2,690; one ton less than the budget allows. Therefore, Connecticut could allocate an additional allowance each year.

**Commenters submitting this comment:** 2, 9

**Response:** The Department should add one ton back into the budget by increasing the numbers in proposed R.C.S.A. sections 22a-174-22c(e)(2), (e)(3), (e)(7)(C) and (e)(8)(B), as follows:

R.C.S.A. section 22a-174-22c(e)(2)

For the control period commencing May 1, 2009 and through the 2014 control period, the Commissioner shall allocate among the owners or operators of CAIR NO<sub>x</sub> Ozone Season units, other than New Units, up to two thousand three hundred fifty-six-seven (2,3567) CAIR NO<sub>x</sub> Ozone Season allowances.

*Also note recommended language change to this section in response to comment 4 in section E of this report.*

R.C.S.A. section 22a-174-22c(e)(3)

For the control period commencing May 1, 2015 and each control period thereafter, the Commissioner shall allocate among the owners or operators of CAIR NO<sub>x</sub> Ozone Season units, other than New Units, up to two thousand four hundred twenty-two~~two~~**three** (2,422**3**) CAIR NO<sub>x</sub> Ozone Season allowances.

*Also note recommended language change to this section in response to comment 4 in section E of this report.*

R.C.S.A. section 22a-174-22c(e)(7)(C)

Allocate to the compliance account of each Phase II Unit the number of CAIR NO<sub>x</sub> Ozone Season allowances equal to the product of the following equation:

$$(A - A_{ALLOCATED}) \times \left( \frac{EO_U}{EO_{TOTAL}} \right)$$

Where:

- A = 2,3567 CAIR NO<sub>x</sub> Ozone Season allowances
- A<sub>ALLOCATED</sub> = the total number of CAIR NO<sub>x</sub> Ozone Season allowances allocated to Industrial Units, Cogeneration Units and Phase I Units in a given year pursuant to subdivisions (7)(A) and (7)(B) of this subsection
- EO<sub>U</sub> = the Phase II Unit's average net electricity output (in MWh) for the 2005 and 2006 control periods
- EO<sub>TOTAL</sub> = the total average net electricity output (in MWh) of all Phase II Units during the 2005 and 2006 control periods

*Also note recommended language changes to this section in response to comments 4, 10 and 12 in section E of this report.*

R.C.S.A. section 22a-174-22c(e)(8)(B)

Allocate to the compliance account of each Phase I Unit and Phase II Unit the number of CAIR NO<sub>x</sub> Ozone Season allowances equal to the product of the following equation:

$$(A - A_{ALLOCATED}) \times \left( \frac{EO_U}{EO_{TOTAL}} \right)$$

Where:

- A = 2,3567 CAIR NO<sub>x</sub> Ozone Season allowances for 2009-2014;  
2,422**3** CAIR NO<sub>x</sub> Ozone Season allowances for 2015 and beyond

$A_{\text{ALLOCATED}}$	=	the total number of CAIR NO <sub>x</sub> Ozone Season allowances allocated to Industrial Units and Cogeneration Units pursuant to subdivision (8)(A) of this subsection for the control period
$EO_U$	=	each Phase I and Phase II Unit's average net electricity output (in MWh) during the 5 <sup>th</sup> and 6 <sup>th</sup> control periods preceding the year of allocation
$EO_{\text{TOTAL}}$	=	the total average net electricity output (in MWh) of Phase I and Phase II Units during the 5 <sup>th</sup> and 6 <sup>th</sup> control periods preceding the year of allocation

*Also note recommended language changes to this section in response to comments 4 and 10 in section E of this report.*

**3. Comment regarding the size of the new source set-aside and the order of allocation to new sources:** The Department is proposing that new units be allocated up to 200 tons during the 2009-2014 control period and under the definition of new units includes units rated at 15 MW for the period of time commencing with initial operation through operating during the sixth ozone season. Thus, for 2009, units rated at 15 MW or more operating since 2003 are treated as new units. The Connecticut Department of Public Utility Control (DPUC) has recently issued a Request for Proposals (RFP) for up to 629 MW of new sources of electricity starting in 2009. The RFP requires any proposals for natural gas fired engines to also include operation under an alternate fuel such as oil. With the addition of new sources anticipated in Connecticut and the fact that new units go back six ozone seasons, it is very likely that 200 tons will not be an adequate allotment for new units. It is presumed that new peaking plants permitted in Connecticut under the DPUC's RFP will be permitted at a limit slightly below major source thresholds (e.g., 25 tpy of NO<sub>x</sub> in severe ozone nonattainment areas and 50 tpy in serious nonattainment areas). Under severe summertime conditions, most of the new units could use their entire operating allotment in the summer months. Thus, it is not unreasonable to assume that new units could easily surpass the 200 tons set aside in a very hot summer. Since the Department wants to encourage new, clean, more efficient sources of electric power, it is recommended that for both the 2009 through 2011 control periods and the 2012 and beyond control periods, the new units be given their allotments before the Phase I and II unit allotments. That way, a pre-determined allotment does not need to be estimated. If the Department disagrees with this recommendation, then the new unit allotment should at least be doubled for both sets of control periods.

**Commenters submitting this comment:** 2, 6, 7

**Response:** The size of the new source set-aside under the NO<sub>x</sub> Budget Program is currently 5% (224 tons). In 2001 and 2002, three power plants totaling over 1500 MW commenced operation. Even under those circumstances, the NO<sub>x</sub> Budget Program new source set-aside was not fully subscribed. However, DPUC's RFPs for significant electricity capacity increases in 2009 and EPA's required lead-time for allocation notification could cause the CAIR new source set-aside to be subscribed more than the NO<sub>x</sub> Budget Program new source set-aside has historically been subscribed. That is why the Department increased the size of the CAIR new source set-aside to approximately 7% through 2014 in proposed R.C.S.A. section 22a-174-22c.

The size of Connecticut's CAIR budget is 40% smaller than the NO<sub>x</sub> Budget Program budget and an additional source (Exeter Energy) has been added to the CAIR regulated universe without a commensurate increase in the size of the budget. Although the Department is encouraging newer, cleaner generation, consideration must be given as well to the financial impacts on existing sources operating under the constraints of a significantly tighter NO<sub>x</sub> budget and revised allocation methodology. In addition, some of the anticipated new sources starting up may be able to use allowances from existing units regulated under the NO<sub>x</sub> Budget Program that said new sources are replacing. Also, as described in the response to comment 9 in section A of this report, it is recommended that the applicability provisions for New Units be revised so that New Units commencing operation prior to September 30, 2008 can move out of the New Unit category of CAIR NO<sub>x</sub> Ozone Season unit sooner than six control periods. Therefore, the Department should not increase the size of the proposed new source set aside at this point in time. However, the Department should keep close watch on this issue and revise the size of the CAIR new source set-aside at a later date if warranted.

The Department should not give New Units their allotments prior to the Phase I and Phase II units because the timing would not work under such a scenario. As stated previously, there is no flexibility in the timing of allocation notifications and the Department is required to notify EPA of allocations several years in advance, except for new unit allocations. Therefore, it would not be possible to allocate allowances to New Units prior to the Phase I and Phase II Units because the Department would not have the baseline data necessary to accurately determine New Unit allocations during the first few control periods of operation such that New Unit allocations could be allocated prior to Phase I and Phase II Unit allocations within the time constraints of notifying EPA of Phase I and Phase II Unit allocations.

The Department should not make any changes as a result of this comment.

**4. Comment regarding the size of the energy efficiency and renewable energy set-aside:**

Four commenters recommend that the size of the set-aside for EE/RE set-aside allocation programs be increased. Two commenters recommend that the size of the EE/RE set-aside be increased from 5% to 10%, a third commenter recommends that the EE/RE set-aside be "substantially" increased but does not specify an amount, and a fourth commenter recommends that the EE/RE set-aside should receive a greater share of the allowance allocation than currently reflected in the proposed regulations. The commenters argue that a five percent set-aside is unlikely to provide sufficient allowances to effectively promote the desired resources. In June 2006 ISO New England released a report concluding that a commitment to conservation and energy efficiency and a more active demand-side response by large utility customers would actually lower costs more than investments in new generating capacity. In addition to lowering total NO<sub>x</sub> emissions, investments in efficiency pay direct dividends to consumers.

The 134 allowances in Connecticut's EE/RE set-aside accounts for only approximately 70 megawatts on an energy output basis. The legislative mandate "Project 100" requires Connecticut utilities to purchase 100 MW of Class I renewable power from projects that are: (1) funded by the Connecticut Clean Energy Fund; (2) began operation after March 1, 2003; (3) are more than 1 MW in capacity; and (4) are located within the State of Connecticut. The current allocation will not provide enough allowances to meet the requirements of Project 100.

If the set-aside allowances are not used, they can be reallocated to conventional generators, but if needed, they can be used to promote the efficiency and renewable technologies that can most



cost-effectively meet the program's goals. In addition, a large EE/RE set-aside would provide a key mechanism to facilitate attainment of the 8-hour ozone standard in Connecticut. Under EPA's current guidance, States and municipalities can receive emission reduction credit in their SIPs for EE/RE measures that reduce NO<sub>x</sub> emissions and help achieve attainment of the 8-hour ozone standard. In fact, many municipalities in Connecticut are interested in making wind and other renewable energy purchases to achieve this objective. EPA guidance will generally require the retirement of NO<sub>x</sub> allowances by the State as a prerequisite for SIP credit.

**Commenters submitting this comment:** 10, 11, 12, 13

**Response:** In order to be consistent with state energy and climate change plans goals of encouraging energy efficiency and the renewable energy industry, the Department should increase the size of the EE/RE set-aside from 5% to 10%. The Department should revise proposed R.C.S.A. sections 22a-174-22c(e)(2), 22a-174-22c(e)(3), 22a-174-22c(e)(6), 22a-174-22c(e)(7)(C), 22a-174-22c(e)(8)(B), 22a-174-22c(e)(9)(C) and 22a-174-22c(f)(1)(H) as follows:

R.C.S.A. section 22a-174-22c(e)(2)

For the control period commencing May 1, 2009 and through the 2014 control period, the Commissioner shall allocate among the owners or operators of CAIR NO<sub>x</sub> Ozone Season units, other than New Units, up to two thousand ~~three~~ **two hundred fifty-six** ~~twenty-three~~ (2,356**223**) CAIR NO<sub>x</sub> Ozone Season allowances.

*Note previous recommended change in the response to comment 2 in section E of this report.*

R.C.S.A. section 22a-174-22c(e)(3)

For the control period commencing May 1, 2015 and each control period thereafter, the Commissioner shall allocate among the owners or operators of CAIR NO<sub>x</sub> Ozone Season units, other than New Units, up to two thousand ~~four~~ **two hundred twenty-two** ~~eighty-nine~~ (2,4**22**289) CAIR NO<sub>x</sub> Ozone Season allowances.

*Note previous recommended change in the response to comment 2 in section E of this report.*

R.C.S.A. section 22a-174-22c(e)(6)

For the control period commencing May 1, 2009 and each control period thereafter, the Commissioner shall allocate up to ~~one~~ **two hundred thirty-four** ~~sixty-eight~~ (134**268**) CAIR NO<sub>x</sub> Ozone Season allowances to Proponents in accordance with subsection (f) of this section.

R.C.S.A. section 22a-174-22c(e)(7)(C)

Allocate to the compliance account of each Phase II Unit the number of CAIR NO<sub>x</sub> Ozone Season allowances equal to the product of the following equation:

$$(A - A_{ALLOTTED}) \times \left( \frac{EO_U}{EO_{TOTAL}} \right)$$

Where:

A = 2,356**223** CAIR NO<sub>x</sub> Ozone Season allowances

- $A_{ALLOCATED}$  = the total number of CAIR NO<sub>x</sub> Ozone Season allowances allocated to Industrial Units, Cogeneration Units and Phase I Units in a given year pursuant to subdivisions (7)(A) and (7)(B) of this subsection
- $EO_U$  = the Phase II Unit's average net electricity output (in MWh) for the 2005 and 2006 control periods
- $EO_{TOTAL}$  = the total average net electricity output (in MWh) of all Phase II Units during the 2005 and 2006 control periods

*Also note recommended language changes in the responses to comments 2, 10 and 12 in section E of this report.*

R.C.S.A. section 22a-174-22c(e)(8)(B)

Allocate to the compliance account of each Phase I Unit and Phase II Unit the number of CAIR NO<sub>x</sub> Ozone Season allowances equal to the product of the following equation:

$$(A - A_{ALLOCATED}) \times \left( \frac{EO_U}{EO_{TOTAL}} \right)$$

Where:

- $A$  = 2,356,223 CAIR NO<sub>x</sub> Ozone Season allowances for 2009-2014; 2,422,289 CAIR NO<sub>x</sub> Ozone Season allowances for 2015 and beyond
- $A_{ALLOCATED}$  = the total number of CAIR NO<sub>x</sub> Ozone Season allowances allocated to Industrial Units and Cogeneration Units pursuant to subdivision (8)(A) of this subsection for the control period
- $EO_U$  = each Phase I and Phase II Unit's average net electricity output (in MWh) during the 5<sup>th</sup> and 6<sup>th</sup> control periods preceding the year of allocation
- $EO_{TOTAL}$  = the total average net electricity output (in MWh) of Phase I and Phase II Units during the 5<sup>th</sup> and 6<sup>th</sup> control periods preceding the year of allocation

*Also note recommended language changes in the responses to comments 2 and 10 in section E of this report.*

R.C.S.A. section 22a-174-22c(e)(9)(C)

The Department should revise the equations in proposed R.C.S.A. section 22a-174-22c(e)(9)(C) as follows:

For 2009-2014:

$$\left[ (200 - A_{ALLOCATED-NU}) + (268 - A_{ALLOCATED-P}) \times \left( \frac{EO_U}{EO_{TOTAL}} \right) \right]$$

For 2015 and beyond:

$$\left[ (134 - A_{ALLOCATED-NU}) + (268 - A_{ALLOCATED-P}) \times \left( \frac{EO_U}{EO_{TOTAL}} \right) \right]$$

R.C.S.A. section 22a-174-22c(f)(1)(H)

The Department should revise the equations in proposed R.C.S.A. section 22a-174-22c(f)(1)(H) as follows:

IF  $\Sigma PA_{CALCULATED} \leq 268$ , THEN

$$A_{ALLOCATED-P} = A_P.$$

IF  $\Sigma PA_{CALCULATED} > 268$ , THEN

$$A_{ALLOCATED-P} = A_P \times \left( \frac{268}{\sum PA_{CALCULATED}} \right)$$

**5. Comment on combining the EE/RE set-aside and the new source set-aside:**

Connecticut's proposed CAIR allocates allowances to fossil-fuel burning EGUs on an energy output basis. Since Connecticut has transitioned to a program that encourages EE/RE projects by allocating allowances on an energy output basis (rather than a heat-input basis), it is not necessary to segregate the EE/RE set-aside from the new source set-aside. EEPs and REPs can be treated the same as new fossil fuel fired units and allocated allowances from the existing source allowance pool in a similar output-based fashion. However, this approach requires EE/RE to be included in the new source set-aside to build the required baseline, just as for conventional units. This approach would eliminate the need for a separate EE/RE set-aside.

However, EEPs and REPs should be guaranteed a substantial percentage of the total NO<sub>x</sub> allowances. Since new conventional units apply to the new source set-aside based on actual emissions, it is possible that the entire new source set-aside would become fully subscribed. Since proponents of EE/RE projects cannot apply for allowances under the new source set-aside based on an emissions baseline, they should be able to apply on the basis of a stipulated allocation rate, such as that proposed for the separate EE/RE set-aside.

Allocating all allowances in one pool based on energy output would be transparent, place EE/RE on an equal footing with fossil-fuel generators, and lessen the administrative burdens on the Department. In the alternative, the Department could maintain the proposed structure but provide for EEPs and REPs to transition into the existing source pool like new fossil fuel sources.

In comparison, under the Department's proposed CAIR, the EE/RE set-aside would likely be exhausted relatively early in the program. This result is likely to occur because all EEPs and REPs must compete for the limited pool of allowances within the EE/RE set-aside even as a substantial number of new projects become operational over time. Allowing projects to

transition into the main allowance pool would free up space in the set-aside for new projects while allowing EE/RE to receive allowances proportionate to their output.

**Commenter submitting this comment: 10**

**Response:** The Department has not had any experience with EE/RE set-aside allocation programs so does not know what the subscription of such a program in Connecticut will be nor the level of resources involved with implementing such a program. Connecticut is currently undergoing significant pressure to add new sources of generation and the new source set-aside will likely see some level of subscription. Review of existing state EE/RE set-aside allocation programs shows that a few states have provisions for unused new source set-asides to be transferred to the EE/RE set-aside if needed. However, it does not appear that any states have combined the new source and EE/RE set-asides. The Department should not combine the new source and EE/RE set-asides at this juncture given all of the uncertainties related to Connecticut's two set-asides. The Department should investigate the feasibility of transferring unused allowances from the new source set-aside to the EE/RE set-aside and/or combining the new source and EE/RE set-asides during the future review of the EE/RE set-aside allocation program. See response to comment 4 in section F of this report regarding recommended revision of timeframe for EE/RE set-aside allocation program review.

**6. Comment on proposed R.C.S.A. sections 22a-174-22c(e)(7) and (8):** Four commenters recommend that the thermal equivalent of the cogenerated steam be recognized in the allowance allocation to cogeneration units (also known as CHP units). Three of the commenters recommend that the allocations to CHP facilities be based on output as for other large facilities with appropriate credit for the thermal as well as the electric output and using the same nominal allocation factor as other sources.

This can be done by converting the thermal output to units of  $MWh_{th}$  and adding them to the electric output as the basis for the allocation. The allocation for large CHP units would be:

$$(1.5 \text{ lb/MWh} * (EO_e + EO_{th} * 1 \text{ MWh}/3.413 \text{ MMBtu})) / (2000 \text{ lb/ton})$$

Where:  $EO_e$  = electricity output in MWh

$EO_{th}$  = thermal output in MMBtu

This approach has been taken in a number of state regulations including the Wisconsin allocation for its CAIR program and is included in an EPA Handbook for Regulators on Output-based Regulation. This approach makes the treatment of large CHP facilities more consistent with the treatment of other large generators while providing a more consistent and appropriate recognition of the benefits of CHP.

Alternatively, Connecticut would use the factor of 0.44 lb  $NO_x$ /MWh that it uses for thermal output under the EE/RE set-aside, which is numerically the same as the conversion shown above. Connecticut should maintain the approach of allocating allowances to CHP units first in the allocation process.

The fourth commenter states that although the Department has expressed a desire to reward and encourage combined heat and power projects, the proposed regulations do not reward cogeneration facilities, like this commenter, which not only produce electricity, but also provide useful thermal energy, which would otherwise likely be produced by burning

additional fuel. For purposes of promoting fuel diversity and the reuse of thermal energy the commenter believes that an energy input method, rather than an electric output method should be used by the regulations. If however, an output based approach is adopted, the regulations should include a provision that allows cogeneration units to propose, subject to Department approval, a method to calculate the additional allowances that should be allocated to account for the additional thermal equivalent (output) of the cogenerated steam.

**Commenters submitting this comment:** 9, 12, 13, 16

**Response:** There are currently 4 Cogeneration Units in Connecticut's CAIR NO<sub>x</sub> Ozone Season Trading Program. An analysis of the impacts of placing the Cogeneration Units into the Phase I and Phase II Unit categories and considering the thermal output in the allocation methodology shows that, for the years 2009-2011, including the Cogeneration Units in the Phase I and Phase II Unit pools is extremely detrimental for the other Phase II Units. For the years 2012 and beyond, the results were inconclusive in that most of the Cogeneration Units received sufficient allocations to cover NO<sub>x</sub> emissions but one did not. However, it may make sense to account for the thermal equivalent of the cogenerated steam in the allocation methodology. Therefore, the Department should collect thermal and electric output data from the Cogeneration Units for the 2006, 2007 and 2008 control periods in order to conduct further analysis of the issue. Such information is required starting in 2009 in proposed R.C.S.A. section 22a-174-22c(i)((2)(A)). In addition, the Department should ponder the feasibility of considering the cogenerated steam equivalent in the allocation methodology for Cogeneration Units when the Department conducts the allocation methodology review recommended in the response to comment 1 of section E of this report.

**7. Comment on suggested revised allocation methodology:** The commenter is one of the lowest NO<sub>x</sub> emitting base loaded electric generating facilities in Connecticut. The facility's actual NO<sub>x</sub> emission rate is well below the CAIR target of 0.15 lb/MMBtu, but as proposed, the commenter will not receive sufficient allowances to cover its operations. This is especially problematic since the commenter currently operates under a long-term contract that does not expire until March 2015. The contract does not contain a pass-through mechanism to pay the additional costs that will be required to purchase additional allowances to comply with the proposed regulations.

The commenter's first objective with respect to the allowance allocation methodology is to at least be kept whole, both now and in the future, while continuing to provide the state with clean energy. **The State must ensure all environmental policy maintains a reliable generation portfolio, fuel diversity, and an ability to offset the cost impacts due to natural gas and fuel oil price volatility.** Based on many recent reports, New England must continue to address this situation to avoid an over-dependence on natural gas in the future. As an **efficient clean coal facility in Connecticut**, the commenter is one of the few electric generating facilities in Connecticut that provides needed fuel diversity among the State's electric generators.

The commenter supports a methodology that creates incentives to reduce emissions to the level required by the regulations. To accomplish this, the commenter suggests the following allocation methodology that should align the regulatory incentives with the goal of reducing NO<sub>x</sub> emissions to the levels required by CAIR:

- First, all units in any category (Phase I, Phase II, Cogeneration or Industrial Units) that emit less than 0.15 lb/Mmbtu, or if the Department is completely wedded to an output based allocation system, 1.5 lb/Mwh, should receive their initial allocation based on their actual emission rates. After this allocation, all generators emitting more than 0.15 lb/Mmbtu (or 1.5 lb/Mwh), should be allocated NO<sub>x</sub> allowances at a rate of up to 0.15 lb/Mmbtu (or 1.5 lb/Mwh).
- After the initial allocations are made, if there are any leftover allowances, those allowances should be allocated to all of the units (in all categories) based on their proportion of net electricity output to the total output during the relevant control periods, similar to the method contained in the proposed regulations for allocating allowances to the Phase II units.
- If not all allowances are distributed to Energy efficiency or Renewable energy projects, such allowances should also be allocated to all of the units (in all categories) based on their proportion of net electricity output to the total output during the relevant control periods, similar to the method contained in the proposed regulations for allocating allowances to the Phase II units.

**Commenter submitting this comment: 16**

**Response:** Please see response to comment 10 of this section of this report. Also note the response to comment 12 of this section of this report.

**8. Comment on the allocation methodology used in proposed R.C.S.A. section 22a-174-22c(e)(7):** Three commenters recommend using the output based methodology currently found in proposed R.C.S.A. section 22a-174-22c(e)(8) during the 2009-2011 control periods in R.C.S.A. section 22a-174-22c(e)(7). It is understood that the Department is trying to ease Phase I Units into output based standards starting in 2012. Under the Department's proposal, Phase I Units or units in operation prior to November 15, 1990 are given allowances at a rate of 1.5 lbs/MWh during 2009 through 2011, which is about an order of magnitude higher or more than Phase II sources. Since the Department is encouraging cleaner, more efficient operation of electric energy sources, the Department should not be giving this hand out to older, dirtier sources of electricity. As per the current Department recommendation, the following Phase I Units will receive the majority of the allowances for the first three years of the program: Bridgeport Harbor, Middletown, Montville, New Haven Harbor, and Norwalk Harbor. The output-based methodology that the Department is proposing to go into effect in 2012 should not be phased in but should be used at the start of the program in 2009.

A fourth commenter notes that the CAIR NO<sub>x</sub> Ozone Season allowance allocation methodology for the 2009 to 2011 control periods as currently drafted and as it applies to Department-defined Phase II Units does not appear to take into consideration that most of the units in this category (i.e., CAIR Units operating since November 15, 1990) already employ NO<sub>x</sub> controls meeting Best Available Control Technology or Lowest Achievable Emission Rate requirements. For example, the majority of units listed in the Phase II category on a control period electrical output basis are state-of-the-art combined cycle and simple cycle combustion turbines firing natural gas and using dry low-NO<sub>x</sub> combustors and selective catalytic reduction (SCR) to achieve NO<sub>x</sub> levels in the 0.01 to 0.02 lb/MMBtu range. With the proposed allocation method, these Phase II Units are allocated

only what remains after allocating allowances to Cogeneration Units, Industrial Units and Phase I Units in proportion to a unit's electricity output to the total Phase II Unit output. Cogeneration Units and Industrial Units are allocated allowances equal to their control period emissions, regardless of age, fuel and existing controls. Phase I Units (those commencing operation before November 15, 1990) are allocated allowances based on the product of their actual control period electricity output and an emission factor of 1.5 lb/MW-hr. In addition, unused New Unit allowances are distributed to Phase I Units. Based on this allocation method, some of the largest Phase I Units are allocated more allowances than or close to their 2005 ozone season actual emissions. However, Phase II Units, which are already the lowest NO<sub>x</sub>-emitting sources in CT with minimal opportunity for additional, technically-feasible or cost-effective reductions, are allocated only a small fraction of allowances in relation to their actual emissions for the 2009 to 2011 control periods. Beginning with the 2012 control period, the allocation method for both Phase I and Phase II Units is the same, when the total allowance budget will be allocated based on the proportion of a Unit's electrical output to the total electrical output. With the allocation method beginning in 2012, Phase II Units with the greatest generation capacities will actually be allocated allowances far exceeding their actual ozone season emissions.

The allocation approach for the 2009 to 2011 control periods is irreconcilable with EPA's goal to target units where controls have been determined to be "highly cost-effective". It would seem much more practical and likely to achieve the goals of the CAIR program to allocate sufficient allowances to the currently-defined Phase II Units to offset actual emissions from this category and concentrate NO<sub>x</sub> reduction efforts on older, higher-emitting units listed as Phase I Units. For example, it would appear to make better sense to include Phase II Units with Cogeneration Units and Industrial Units in the same manner as New EGUs are under the existing Post 2002 NO<sub>x</sub> Budget regulations (section 22a-174-22b). In that regulation, New EGUs are allocated allowances essentially equal to their actual emissions. Alternatively, unused New Unit allowances could be transferred for a more equitable allocation to Phase II Units instead of being transferred to Phase I Units as is the current proposal. However, there is less certainty with the latter approach that Phase II Units would be allocated sufficient allowances to offset actual control period emissions (i.e., if significant new generation is added in the state and insufficient unused allowances are available).

**Commenters submitting this comment:** 1, 2, 6, 7

**Response:** See response to comment 10 of this section of this report.

**9. Comment on replacing allocation methodology used in proposed R.C.S.A. section 22a-174-22c(e)(8) with allocation methodology used in proposed R.C.S.A. section 22a-174-22c(e)(7):** Two commenters recommend maintaining the allocation methodology proposed for 2009-2011 in 2012 and beyond. The proposed 2009-2011 methodology achieves an equitable allocation while the proposed change in 2012 renders the allocation completely inequitable, providing undue burden to Phase I Units and an economic windfall to Phase II Units.

By including generation units rated at 15 MW rather than the 25 MW level included in the EPA rules as well as industrial sources, the pool of available allowances for Phase I Units is lowered. Using an allocation method based on 1.5 lb/MWh under allocates to some Phase I Units less allowances than they need to operate. A rate of 1.5 lb/MWh relates to a NO<sub>x</sub> rate of less than 0.15 lb/MMBtu for units with a heat rate greater than 10,000 BTU/kWh. So, these units are penalized and may need to obtain allowances on the open market, assuming their operations in

the future control periods are the same as their operations in the base period of 2005 and 2006. As an example, a unit with a heat rate of 12,000 BTU/kWh, which is allocated based on a NO<sub>x</sub> rate of 1.5 lb/MWh, will need a NO<sub>x</sub> rate of 0.125 lb/MMBtu in order to have the allowances allocated equal to the NO<sub>x</sub> tons emitted.

The units with a higher heat rate tend to be the Load Following units in the state. These units are critical to the electric supply in the state when demand is high. But their low capacity factor prevents them from recovering in the market the cost of additional controls. In fact, many of the higher heat rate units are covered by Reliability Must Run (RMR) contracts so the additional cost of required allowances will be passed through as part of the stipulated bid price.

Once the RMR contracts expire, scheduled for the year 2010 when the Forward Capacity Market (FCM) is implemented, these units may still be needed. The FCM will be a new market and the results of this market in terms of whether new generation will be encouraged and built are unknown. Also, the Connecticut DPUC is currently conducting a RFP for new capacity in the state. The contract award will not occur until after the CAIR regulations are finalized. Again, the results of the RFP are unknown as to whether how much, if any, new generation will be built in the state.

It is important then, for the Department not to be overly aggressive in their CAIR regulations and take actions that may harm the current generation system in terms of available generation or pricing. Once the result of the DPUC process and the FCM are implemented, some of the Load Following units may still be needed and will most likely become the units that set the marginal clearing price. By under-allocating to some of the Phase I Units in the first round of allocations will do nothing but result in higher electricity prices.

By then grouping the Phase I and Phase II Units together for allocation starting with the 2012 control period, the Phase II Units, the majority of which have recent New Source Review permits and a NO<sub>x</sub> rate lower than 1.5 lb/MWh, will be over-allocated CAIR allowances. And as a result, Phase I Units will be further under-allocated allowances. The justification for a change in the allocation methodology is that the units with a lower heat rate are being "rewarded" for their efficiency. But, the over-allocation to these higher efficiency units will do nothing to help lower emissions or electricity costs in the state. The unused allowances held by the Phase II Units are simply an additional revenue stream for these units.

In addition, maintaining the allocation method to Phase I Units based on 1.5 lb/MWh can serve as an incentive for these units to install NO<sub>x</sub> controls. Since an allocation method based on MWh for all Phase I and Phase II Units may result in a Phase I Unit which installs controls to be under-allocated allowances despite the NO<sub>x</sub> reductions that occur. If a Phase I Unit continues to be allocated based on 1.5 lb/MWh, the Phase I source that installs controls has some assurance that it will receive sufficient allowances to meet their actual emissions. The Department should incorporate actions into the regulations that will encourage the installation of controls on the Phase I Units. By maintaining the 1.5 lb/MWh method for allocations starting 2012 will do just this.

It is well established that emissions allowance allocations have little, if any, effect on the environmental outcome of emissions trading programs. With a functional emissions trading market, the environmental outcome is not affected by the initial allowance allocation, but rather dictated by the number of total allowances available in the market.



Similarly, emissions allocations have little impact on the efficiency of the emissions trading program. So long as there is a liquid trading market, the number of allowances any given source starts with and the method by which they are distributed among affected sources is not a driver of program efficiency. Because neither the environmental benefit of a trading program nor the incentive it provides for more efficient, cleaner generation are substantially affected by the allocation methodology, the primary objective of the Department's emissions allocation should be to provide a transparent method for *equitably* allocating economic burden.

One factor that should be considered in evaluating the equity of an emission reduction program is the level of emissions reduction already being undertaken by affected sources. This commenter has already switched fuel at its facility to reduce SO<sub>2</sub> emissions to a level well below emissions requirements in the state. In addition, the commenter is currently investing in mercury control technology at its facility.

In 2009 each source category receives allocations that are less than their 2005 emissions, creating a reasonable sharing of economic burden. In 2012, however, Phase II Units receive 560 percent of the allowances they actually need to cover 2005 emissions levels, while Phase I Units receive allowances equal to only 31 percent of their 2005 emissions. This result is inequitable, unnecessary and unjust.

Comparing the proposed allocation to 2005 emissions and assuming \$10,000/ton allowances, Phase I Units are effectively assigned a \$16.6 million dollar per year cost beginning in 2012, while Phase II Units would receive a \$10 million per year windfall. In contrast, in 2009 each source category shares in the economic burden, although Phase I Units still shoulder the largest cost.

As indicated in comments submitted to EPA by the Department, EPA based the state's CAIR ozone season budget on EPA's 1999 NO<sub>x</sub> SIP Call budget, which was never used in implementing the NO<sub>x</sub> SIP Call program. As a result, the state is starting with a budget that is highly limited to begin with, which renders an equitable allocation all the more important. The proposed allocation change in 2012 focuses almost the entire burden on one subset of sources and does so two years earlier than the 2014 Phase II of the CAIR program. The commenter believes that there is no justification for changing the allocation methodology in 2012 or any other year when doing so provides no environmental or efficiency benefit and creates significant inequity.

**Commenters submitting this comment:** 3, 14

**Response:** See response to comment 10 of this section of this report.

**10. Comment on the Phase II allocation method with respect to Exeter Energy Limited Partnership:** All of the Phase II Units in Connecticut, with the exception of Exeter Energy's waste tire-fired incinerators, are combustion turbines firing natural gas or distillate oil and most employ NO<sub>x</sub> controls meeting Best Available Control Technology or Lowest Achievable Emission Rate requirements. Moreover, the base-load units, which make up 96 percent of the net electricity output of all of the listed Phase II Units, have an average NO<sub>x</sub> emission rate of 0.017 lb/MMBtu. In comparison, Exeter Energy's tire-fired incinerators, although employing applicable Best Available Control Technology for a tire incinerator, have actual NO<sub>x</sub> emission

rates of 0.08 and 0.09 lb/MMBtu. As such, Exeter Energy would be unfairly penalized for being a unique tire-fired electricity generating facility in Connecticut and a more equitable allocation to Exeter Energy is appropriate. For example, if the Phase II allocation method remains based on the proportion of a unit's electrical output to the total Phase II Unit output, then an adjustment factor should be applied to Exeter Energy's allocation or the units should be included in the category with Cogeneration Units and Industrial Units for allocation purposes. The commenter further notes that:

- Exeter Energy is one of two dedicated waste tire-to-energy facilities currently in operation in the United States.
- EPA has not performed any specific cost analysis on dedicated waste tire-to-energy facilities to determine whether emission reductions from this source category are highly cost effective.
- NO<sub>x</sub> emissions control systems at Exeter Energy already include selective non-catalytic reduction.

**Commenter submitting this comment: 1**

**Response:** The unique nature of the Exeter Energy Limited Partnership (Exeter) facility, as compared with the other Phase II Units in Connecticut's CAIR universe, makes its placement in the Phase II Unit category problematic. The Department should add the following definition for "Reciprocating grate waste tire-fired Unit" to R.C.S.A. section 22a-174-22c(a):

**"Reciprocating grate waste tire fired Unit" means an emissions unit combusting a single item waste stream of tires that began operating on or after November 15, 1990, that serves a generator that generates electricity at a rated output of fifteen (15) megawatts or more."**

The Department should also place such units in the same category with Cogeneration Units and Industrial Units in the allocation methodology in R.C.S.A. section 22a-174-22c(e). Therefore, the Department should add the term "Reciprocating grate waste tire fired Unit" to R.C.S.A. sections 22a-174-22c(e)(1), 22a-174-22c(e)(7)(A), 22a-174-22c(e)(7)(C), 22a-174-22c(e)(8)(A) and 22a-174-22c(e)(8)(B) as follows:

R.C.S.A. section 22a-174-22c(e)(1)

In applying the provisions of this subsection to a CAIR NO<sub>x</sub> Ozone Season unit, such unit shall be categorized as a Phase I Unit, a Cogeneration Unit, an Industrial Unit, a New Unit, a **Reciprocating grate waste tire fired Unit** or a Phase II Unit, as applicable.

*Also note new recommended language for this section in response to comment 12 of section A of this report. The Department should add the term "**Reciprocating grate waste tire fired Unit**" after the term "Industrial Unit," in the second sentence of such new recommended language. The Department should also add the term "**Reciprocating grate waste tire fired Unit**" after the term "Cogeneration Unit," in the third sentence of such new recommended language.*

R.C.S.A. section 22a-174-22c(e)(7)(A)

Allocate to the compliance account of each Cogeneration Unit, and Industrial Unit and **Reciprocating grate waste tire fired Unit**, the number of CAIR NO<sub>x</sub> Ozone Season

allowances equal to the product of the following calculation equation:

$$\frac{(ER \times HI_{AVG})}{2000 \frac{lb}{ton}}$$

Where:

ER = The lowest of:

- (i) the unit's NO<sub>x</sub> RACT emission rate (in lb/mmBtu of heat input), during the 2005 and 2006 control periods, as required in section 22a-174-22 of the Regulations of Connecticut State Agencies; or
- (ii) the unit's average permitted NO<sub>x</sub> emission rate (in lb/mmBtu of heat input) during the 2005 and 2006 control periods; or
- (iii) the average of the unit's actual NO<sub>x</sub> emission rate (in lb/mmBtu of heat input) during the 2000 through 2004 control periods.

HI<sub>AVG</sub> = the unit's actual average heat input (in mmBtu) during the 2005 and 2006 control periods

*The word "calculation" above has been replaced with the word "equation" for consistency purposes. The semicolons in (i) and (ii) were replaced with commas for formatting purposes. Also note new recommended language for this section in response to comment 12 of section E of this report and in comment 2 of the Additional Comments of the Hearing Officer section of this report.*

R.C.S.A. section 22a-174-22c(e)(7)(C)

Allocate to the compliance account of each Phase II Unit the number of CAIR NO<sub>x</sub> Ozone Season allowances equal to the product of the following equation:

$$(A - A_{ALLOCATED}) \times \left( \frac{EO_U}{EO_{TOTAL}} \right)$$

Where:

A = 2,356 CAIR NO<sub>x</sub> Ozone Season allowances

A<sub>ALLOCATED</sub> = the total number of CAIR NO<sub>x</sub> Ozone Season allowances allocated to Industrial Units, Cogeneration Units, **Reciprocating grate waste tire fired Units** and Phase I Units in a given year pursuant to subdivisions (7)(A) and (7)(B) of this subsection

- $EO_U$  = the Phase II Unit's average net electricity output (in MWh) for the 2005 and 2006 control periods
- $EO_{TOTAL}$  = the total average net electricity output (in MWh) of all Phase II Units during the 2005 and 2006 control periods

*Also note new recommended language for this section in responses to comments 2, 4 and 12 of section E of this report.*

R.C.S.A. section 22a-174-22c(e)(8)(A)

Allocate to the compliance account of each Cogeneration Unit, and Industrial Unit, and **Reciprocating grate waste tire fired Unit** the number of CAIR NO<sub>x</sub> Ozone Season allowances equal to the product of the following calculation:

$$\frac{(ER \times HI_{AVG})}{2000 \frac{lb}{ton}}$$

Where:

ER = the lowest of:

- (i) the unit's NO<sub>x</sub> RACT emission rate (in lb/mmBtu of heat input), during the 5<sup>th</sup> and 6<sup>th</sup> control periods preceding the year of allocation, as required in section 22a-174-22 of the Regulations of Connecticut State Agencies; or
- (ii) the unit's average permitted NO<sub>x</sub> emission rate (in lb/mmBtu of heat input) during the 5<sup>th</sup> and 6<sup>th</sup> control periods preceding the year of allocation; or
- (iii) the average of the unit's actual NO<sub>x</sub> emission rate (in lb/mmBtu of heat input) during the 2000-2004 control periods.

$HI_{AVG}$  = the unit's actual average heat input (in mmBtu) during the 5<sup>th</sup> and 6<sup>th</sup> control periods preceding the year of allocation

*Note the substitution of the semicolons in (i) and (ii) above with commas for formatting purposes. Note an additional recommended change to this section in comment 2 of the Additional Comments of the Hearing Officer section of this report.*

R.C.S.A. section 22a-174-22c(e)(8)(B)

Allocate to the compliance account of each Phase I Unit and Phase II Unit the number of CAIR NO<sub>x</sub> Ozone Season allowances equal to the product of the following equation:

$$(A - A_{ALLOCATED}) \times \left( \frac{EO_U}{EO_{TOTAL}} \right)$$

Where:

A	=	2,356 CAIR NO <sub>x</sub> Ozone Season allowances for 2009-2014; 2,422 CAIR NO <sub>x</sub> Ozone Season allowances for 2015 and beyond
A <sub>ALLOCATED</sub>	=	the total number of CAIR NO <sub>x</sub> Ozone Season allowances allocated to Industrial Units, <del>and</del> Cogeneration Units <b>and</b> <b>Reciprocating grate waste tire fired Units</b> pursuant to subdivision (8)(A) of this subsection for the control period
EO <sub>U</sub>	=	each Phase I and Phase II Unit's average net electricity output (in MWh) during the 5 <sup>th</sup> and 6 <sup>th</sup> control periods preceding the year of allocation
EO <sub>TOTAL</sub>	=	the total average net electricity output (in MWh) of Phase I and Phase II Units during the 5 <sup>th</sup> and 6 <sup>th</sup> control periods preceding the year of allocation

*Also note new recommended language for this section in responses to comments 2 and 4 of section E of this report.*

However, removing Exeter Energy from the Phase II Unit category and adding it to the Cogeneration and Industrial Unit category results in Phase II Units receiving substantially fewer allocations during 2009-2011 than if Exeter Energy remained in the Phase II Unit category. Using 2005 data, Phase II Units would be allocated allowances at an effective rate of 0.019 lb/MWh with Exeter Energy out of the Phase II Unit category (while Phase I Units would be allocated allowances at a rate of 1.5 lb/MWh). The average emission rate of Phase I and Phase II Units (not including Exeter Energy) in 2005 was 0.8 lb/MWh. In 2005, Phase I Units emitted 80% of NO<sub>x</sub> emissions while generating 36% of MWhs generated by NO<sub>x</sub> Budget Program Sources and Phase II Units (not including Exeter Energy), emitted 6% of NO<sub>x</sub> emissions while generating 56% of MWhs generated by NO<sub>x</sub> Budget Program sources. Even though the unused new source and EE/RE set-asides are redistributed to both Phase I and Phase II units in the current proposal, there is no guarantee that such set-asides will be redistributed and the Phase II Units may experience a significant allowance shortage although such units generate the most MWhs while emitting the least amount of NO<sub>x</sub>. Clearly, an allocation methodology that significantly disadvantages the Phase II Units is not consistent with state energy and climate change policy to encourage cleaner generation and technology.

Therefore, the Department should revise proposed section 22a-174-22c(e)(7)(B) as follows:

Allocate to the compliance account of each Phase I Unit the number of CAIR NO<sub>x</sub> Ozone Season allowances equal to the product of the following equation:

$$\frac{\left(1.52 \frac{\text{lb}}{\text{MWh}} \times EO_U\right)}{2000 \frac{\text{lb}}{\text{ton}}}$$

Where:

$EO_U$  = each Phase I Unit's average net electricity output (in MWh) during the 2005 and 2006 control periods

*Also note new recommended language for this section in response for comment 12 in section E of this report.*

This will generally distribute adequate allowances to the cleanest units. One of the commenters referenced in comment 9 of this section argues against giving Phase II Units "inequitable windfalls" in 2012, calculating allowance cost estimates using a questionable \$10,000/ton allowance price. However, Phase I Units (known as Baseline EGUs under the NO<sub>x</sub> Budget Program) as a group received windfalls (more allowances than needed for compliance) of approximately 12,361 allowances worth about \$24,722,000 since the inception of the NO<sub>x</sub> Budget Program in 1999 (using a \$2000/ton allowance price). Treating all MWhs generated equally with respect to allowance allocations provides more incentive for more efficient generation throughout the state. To the extent that new generation is to be built, there will be incentive to make such new units clean units.

The other commenter referenced in comment 9 of this section discusses the FCM and the specter of higher electricity prices. For the FCM, letters of interest from generators are due to DPUC in December 2006, qualifying bids are due to DPUC in June 2007 and final bids are due to DPUC by February 2008. Control costs (or cost of allowances) associated with a specific allocation approach will be built into the bids. While no one knows what will happen under the FCM, if Phase I Units have higher bid prices as a result of the need to purchase more allowances than before, this alone might encourage new generation to be built in the state (see *Economic Analysis of Alternate Methods of Allocating NO<sub>x</sub> Emission Allowances*, ICF, October 1999).

In order to be consistent with the 1.2 lb/MWh multiplier described above, the Department should change the lb/MMBtu number referenced in proposed R.C.S.A. section 22a-174-22c(e)(9)(A) as follows:

22a-174-22c(e)(9)(A)

Prior to the allowance transfer deadline of the 2009 control period and each control period thereafter, the Commissioner shall:

- (A) Allocate to the compliance account of each New Unit the number of CAIR NO<sub>x</sub> Ozone Season allowances equal to the product of the following equation, subject to the limitation in subparagraph (B) of this subdivision:

$$\frac{(ER \times HIR \times HO_{CP})}{2000 \frac{lb}{ton}}$$

Where:

ER = the lower of:

- (i) ~~0.15 lb/MMBtu for the years 2009-2014;~~  
~~0.125 lb/MMBtu for 2015 and thereafter~~**0.12 lb/MMBtu;** or
- (ii) the unit's permitted NO<sub>x</sub> emission rate (in lb/mmBtu of heat input) during the control period.

HIR = the lower of:

- (i) the unit's maximum design heat input (in mmBtu/hr);

or

- (ii) the unit's permitted heat input rate (in mmBtu/hr) during the control period.

HO<sub>CP</sub> = the number of hours the unit operated during the prior control period, rounded to the nearest whole hour by rounding down for decimals less than 0.5, and rounded up for decimals of 0.5 or greater. If the unit did not operate during the prior control period, the number of hours shall be determined by the Commissioner based on information submitted pursuant to subsection (i)(2) of this section

It is not recommended that the 1.5 lb/MWh multiplier referenced in R.C.S.A. section 22a-174-22c(f)(1) be changed to 1.2 lb/MWh at this time. The multiplier should remain at 1.5 lb/MWh in order to encourage EE/RE projects.

While there are perceived "winners" and "losers" under the proposed allocation methodology, after balancing historical allocation outcomes and Department goals, this phased approach to an output-based allocation system seems reasonable at this time. As discussed in the response to comment 1 in this section of this report, the Department should investigate auctioning allowances rather than allocating allowances as an option for distribution of NO<sub>x</sub> allowances in the future. That way, allowances would not be "given away" for free.

*Note that the term "a Reciprocating grate waste tire fired Unit" must be added to the revised R.C.S.A. sections 22a-174-22c(d)(2)(A)(ii), 22a-174-22c(d)(2)(B)(ii) and 22a-174-22c(d)(2)(C)(ii) after the term "an Industrial Unit," (see response to comment 9 in section A of this report). Also note recommended change to first sentence of R.C.S.A. section 22a-174-22c(e)(9) in the response to comment 15 of section E of this report. Commas have been substituted for the semicolons in both (i)s above for formatting purposes.*

**11. Comment on the dates in proposed R.C.S.A. sections 22a-174-22c(e)(7) and 22a-174-22c(e)(8):** The dates May 1, 2009 and May 1, 2012 in subdivision (e)(7) and subdivision (e)(8), respectively, must be removed as the timing for determining allocations is already set in subsection (d). Subsection (d) specifies the dates by which the Commissioner will determine and notify the Administrator of the allocations for specified control periods. After these dates, the Administrator will record the allocations.

**Commenter submitting this comment: 9**

**Response:** The Department should revise the first sentences of proposed sections 22a-174-22c(e)(7) and (8) as follows:

R.C.S.A. section 22a-174-22c(e)(7)

~~By May 1, 2009, for each of the years~~ **For the 2009, 2010, and 2011, control periods,** the Commissioner, in the following manner and order, shall:

R.C.S.A. section 22a-174-22c(e)(8)

~~By May 1, 2012 and each year thereafter,~~ **For the 2012 control period, and each control period thereafter,** the Commissioner, in the following manner and order, shall:

**12. Comment on the control periods used for establishing heat input, emission rate, and electricity output in R.C.S.A. sections 22a-174-22c(e)(7) and 22a-174-22c(e)(8):** One commenter states that the proposed methodology in section 22a-174-22c(e)(7)(A) for a "Cogeneration Unit" calculates the unit's NO<sub>x</sub> allocations for the 2009-2011 control periods using the average actual heat input for the 2005 and 2006 control period. The commenter's facility, which has operated as a merchant facility since October 2001, was being offered for sale by the previous owners during the 2005 & 2006 Ozone Seasons and little effort was made during that period to exploit economic opportunities for the facility to operate in the merchant environment. Consequently, operating hours were very low.

The commenter believes, therefore, that the 2005 and 2006 control periods are not representative of the operations the facility will experience under its new ownership with a different operating strategy and different economic situation. The use of the average actual heat input for the 2005 and 2006 control periods to calculate the commenter's NO<sub>x</sub> allocations during the transition to the CAIR Rule will unfairly result in the facility being allocated a very low number of allocations for these three future control periods (2009-2011) which will economically disadvantage the facility's operations.

Similarly, the proposed methodology in section 22a-174-22c(e)(8)(A) for the calculation of NO<sub>x</sub> allocation for the 2012 control period and beyond relies on the average heat input from the two control periods that are five and six years prior to the control period of the allocation. As a merchant facility, the commenter's operations are determined by economic factors such as energy demand and fuel pricing and may vary from year to year. The use of only two control periods to determine future allocations may not reflect typical facility operations.

The commenter therefore recommends the use of a longer averaging period for the heat input used to calculate future NO<sub>x</sub> allocations for the CAIR NO<sub>x</sub> Ozone Season Trading Program. The CAIR FIP calculates the unit NO<sub>x</sub> allocations using the average of the three highest heat inputs over a five-year period (2000-2004). As discussed in the preamble to the FIP [71 FR 25356], the use of the longer averaging period makes more likely that the normal operation of the unit will be reflected in the data. The commenter agrees with this approach and urges the Department to consider the use of five years of heat input data in determining NO<sub>x</sub> allocations. This will reduce variations in a unit's NO<sub>x</sub> allocations due to temporary changes in its operations and increase regulatory certainty for the regulated community.



Two other commenters suggested allowing cogeneration and other units to propose, subject to Department approval, the use of an alternative period for determining the unit's average heat input rate (or average net electricity output) and the unit's average actual NO<sub>x</sub> emission rate. This could be accomplished either by adding language to each subsection in section 22a-174-22c(e) which includes an equation using emission rate and heat input or net electric output, or by adding a new subsection to section 22a-174-22c(e) that provides for the use of such an alternative control period. Such language could be similar to the language used for setting baseline emissions under the NSR program. See, e.g. section 22a-174-1(2) definition of actual emissions, incorporating by reference 40 CFR 51.165(a)(1)(xii)(B).

For example, the definition of HIAVG in section 22a-174-22c(e)(7)(A) could be revised as follows:

*“the unit’s actual average heat input (in mmbtu) during the 2005 and 2006 control periods or another two-year control period which the Department determines is more representative of the unit’s normal operation, based upon a written demonstration by the Unit.”*

Similar language could be inserted in the definition of ER in section 22a-174-22c(e)(7)(A):

*“the average of the unit’s actual NO<sub>x</sub> emission rate (in lb/mmbtu of heat input) during the 2000 through 2004 control periods, or another four-year control period which the Department determines is more representative of the unit’s normal operation, based upon a written demonstration by the Unit.”*

The alternative of including this type of language in each regulation would be to add a new subsection authorizing petitions for alternatives to designated baseline control periods used to calculate allocations of allowances.

Both commenters suggesting the above alternative language experienced unplanned outages during the 2005 ozone season, so the 2005 control period is not representative of normal operations, and if it is used to calculate CAIR allowance allocations for 2009 through 2011, the commenters will be penalized. Therefore, the commenters request that the Department include an option to allow the use of alternative baseline years to calculate average heat input, electricity output and emission rates, upon petition of a unit.

**Commenters submitting this comment:** 8, 15, 16

**Response:** Some flexibility in control periods used to determine the first three years of allocations in the CAIR NO<sub>x</sub> Ozone Season Trading Program is warranted. Under the proposed regulation, 2005 and 2006 data would be used to determine allocations for three years (2009, 2010 and 2011). However, the same flexibility for 2012 and beyond does not seem necessary because two years of data (albeit from four years previously) will be used to determine allocations for only one year. The Department should revise proposed sections 22a-174-22c(e)(7)(A), 22a-174-22c(e)(7)(B) and 22a-174-22c(e)(7)(C) as follows:

R.C.S.A. section 22a-174-22c(e)(7)(A)

Allocate to the compliance account of each Cogeneration Unit and Industrial Unit, the number of CAIR NO<sub>x</sub> Ozone Season allowances equal to the product of the following calculation:

$$\frac{(ER \times HI_{AVG})}{2000 \frac{lb}{ton}}$$

Where:

ER = The lowest of:

- (i) the unit's NO<sub>x</sub> RACT emission rate (in lb/mmBtu of heat input), during the 2005 and 2006 control periods, as required in section 22a-174-22 of the Regulations of Connecticut State Agencies; or
- (ii) the unit's average permitted NO<sub>x</sub> emission rate (in lb/mmBtu of heat input) during the 2005 and 2006 control periods; or
- (iii) the average of the unit's actual NO<sub>x</sub> emission rate (in lb/mmBtu of heat input) during the 2000 through 2004 control periods, **unless the owner or operator submits a written request for the Commissioner's review and approval, for the use of an alternate two-year control period during 2003-2006, including justification and data for such alternate two-year control period.**

HI<sub>AVG</sub> = the unit's actual average heat input (in mmBtu) during the 2005 and 2006 control periods, **unless the owner or operator submits a written request for the Commissioner's review and approval, for the use of an alternate two-year control period during 2003-2006, including justification and data for such alternate two-year control period**

*Note recommended addition of term "Reciprocating grate waste tire fired Unit", change of word "calculation" to "equation" and substitution of commas for semicolons in (i) and (ii) in response to comment 10 of section E of this report.*

*Note an additional recommended change to this section in comment 2 of the Additional Comments of the Hearing Officer section of this report.*

R.C.S.A. section 22a-174-22c(e)(7)(B)

Allocate to the compliance account of each Phase I Unit the number of CAIR NO<sub>x</sub> Ozone Season allowances equal to the product of the following equation:

$$\frac{\left(1.5 \frac{lb}{MWh} \times EO_u\right)}{2000 \frac{lb}{ton}}$$

Where:

$EO_U$  = each Phase I Unit's average net electricity output (in MWh) during the 2005 and 2006 control periods, **unless the owner or operator submits a written request for the Commissioner's review and approval, for the use of an alternate two-year control period during 2003-2006, including justification and data for such alternate two-year control period**

*Note the recommended revision of equation constant from 1.5 lb/MWh to 1.2 lb/MWh in the response to comment 10 of section E of this report.*

R.C.S.A. section 22a-174-22c(e)(7)(C)

Allocate to the compliance account of each Phase II Unit the number of CAIR NO<sub>x</sub> Ozone Season allowances equal to the product of the following equation:

$$(A - A_{ALLOCATED}) \times \left( \frac{EO_U}{EO_{TOTAL}} \right)$$

Where:

$A$  = 2,356 CAIR NO<sub>x</sub> Ozone Season allowances

$A_{ALLOCATED}$  = the total number of CAIR NO<sub>x</sub> Ozone Season allowances allocated to Industrial Units, Cogeneration Units and Phase I Units in a given year pursuant to subdivisions (7)(A) and (7)(B) of this subsection

$EO_U$  = the Phase II Unit's average net electricity output (in MWh) for the 2005 and 2006 control periods, **unless the owner or operator submits a written request for the Commissioner's review and approval, for the use of an alternate two-year control period during 2003-2006, including justification and data for such alternate two-year control period**

$EO_{TOTAL}$  = the total average net electricity output (in MWh) of all Phase II Units during the 2005 and 2006 control periods, **unless the owner or operator submits a written request for the Commissioner's review and approval, for the use of an alternate two-year control period during 2003-2006, including justification and data for such alternate two-year control period**

*Note the recommended change of the value of "A" from 2356 to 2357 CAIR NO<sub>x</sub> Ozone Season allowances in the response to comment 2 of section E of this report and the subsequent recommended change of the value of "A" from 2356 to 2223 in the response to comment 4 of section E of this report. Also note the recommended addition of the term "Reciprocating grate waste tire fired Unit" to this section in accordance with the response to comment 10 of section E of this report.*

Although it is recommended that the Department allow the use of alternate two-year control periods for determining CAIR NO<sub>x</sub> Ozone Season allowance allocations for the 2009-2011

control periods, if the Department's intent is to use the most recent data available, the Department should establish criteria for approving the use of such alternate two-year control periods. Therefore, the Department should add a new R.C.S.A. section 22a-174-22c(e)(7)(D) to the proposed regulation as follows:

R.C.S.A. section 22a-174-22c(e)(7)(D)

**Any owner or operator may submit a written request for the Commissioner's review and approval for the use of an alternate two-year control period pursuant to Regulations of Connecticut State Agencies sections 22a-174-22c(e)(7)(A), (B) or (C) if the average NO<sub>x</sub> emission rate, average heat input or average net electricity output data from the CAIR NO<sub>x</sub> Ozone Season unit during the 2005 and 2006 control periods was not representative for the following reasons:**

- (i) **Transmission line failure,**
- (ii) **Equipment failure, or**
- (iii) **Any other reason related to unplanned outage.**

Allowing the use of more representative control periods to determine average heat inputs, electricity outputs and emission rates for the calculation of 2009-2011 allowances necessitates the revision of the definitions of EO<sub>U</sub> and EO<sub>TOTAL</sub> in section 22a-174-22c(e)(9)(C) as follows:

EO<sub>U</sub> = each Phase I and Phase II Unit's average net electricity output (in MWh) during the 2005 and 2006 control periods, **unless the owner or operator submits a written request for the Commissioner's review and approval, for the use of an alternate two-year control period during 2003-2006, including justification and data for such alternate two-year control period**

EO<sub>TOTAL</sub> = For the years 2009-2011, the total average net electricity output (in MWh) of Phase I and Phase II Units during the 2005 and 2006 control periods, **unless the owner or operator submits a written request for the Commissioner's review and approval, for the use of an alternate two-year control period during 2003-2006, including justification and data for such alternate two-year control period.** For the year 2012 and each year thereafter, the total average net electricity output (in MWh) of Phase I and Phase II Units during the 5<sup>th</sup> and 6<sup>th</sup> control periods preceding the year of allocation.

*Note an additional recommended change to the definition of EO<sub>U</sub> in comment 3 of the Additional Comments of the Hearing Officer section of this report.*

As a result of the proposed recommended changes to R.C.S.A. section 22a-174-22c(e)(9)(C), the Department should add a new R.C.S.A. section 22a-174-22c(e)(9)(D), similar to the recommended new R.C.S.A. section 22a-174-22c(e)(7)(D):

22a-174-22c(e)(9)(D)

**Any owner or operator may submit a written request for the Commissioner's review and**

approval for the use of an alternate two-year control period pursuant to Regulations of Connecticut State Agencies section 22a-174-22c(e)(9)(C) if average net electricity output data from the CAIR NO<sub>x</sub> Ozone Season unit during the 2005 and 2006 control periods was not representative for the following reasons:

- (i) Transmission line failure,
- (ii) Equipment failure, or
- (iii) Any other reason related to unplanned outage.

**13. Comment regarding the control periods used in the definitions of EO<sub>U</sub> and EO<sub>TOTAL</sub> in sections 22a-174-22c(e)(7)(B) and 22a-174-22c(e)(7)(C):** It is recommended that rather than fixing the control periods to 2005 and 2006, the periods float as they do for 2012 and beyond.

**Commenters submitting this comment:** 2, 6, 7

**Response:** Pursuant to 71 FR 25372, “The State’s methodology must require that, for EGUs commencing operation before January 1, 2001, the permitting authority will determine, and notify the Administrator of, each unit’s allocation of CAIR NO<sub>x</sub> Ozone Season allowances by April 30, 2007 for 2009, 2010 and 2011...”. The Department specified the 2005 and 2006 control periods in the definitions of EO<sub>U</sub> and EO<sub>TOTAL</sub> in order to use the most recent data available. However, 2005 and 2006 data may not be the most representative for several sources for the purposes of determining the first three years of allocations. See the response to comment 12 in this section of this report.

**14. Comment regarding the average and actual control periods referenced in R.C.S.A. sections 22a-174-22c(e)(7) and 22a-174-22c(e)(8):** It is recommended that in both sections 22a-174-22c(e)(7) and (8), the average and actual control periods preceding the year of allocation rather than the fifth and sixth control periods be used or use a longer averaging period.

**Commenters submitting this comment:** 2, 6, 7

**Response:** With respect to section 22a-174-22c(e)(7), please see response to comment 12 in this section of this report. With respect to section 22a-174-22c(e)(8), pursuant to 71 FR 25372, the state must notify EPA of each unit’s allocation of CAIR NO<sub>x</sub> Ozone season allowances for the years following 2011 by the fourth previous October 31. For example, the state would need to notify EPA by October 31, 2008 of allocations for the 2012 control period. As such, data from the average and actual control periods preceding the year of allocation could not be used. To determine the allocations for 2012 and beyond, the Department chose to use data from the fifth and sixth previous control periods in order to use the most recent data available prior to the allocation notification. As the proposed CAIR regulation is drafted, data from the 2006 and 2007 control periods would be used to determine allocations for 2012. The Department should use the most recent data available in order to determine allocations for one control period four years in advance. The Department should not make any changes to section 22a-174-22c(e)(8) as a result of this comment.

**15. Comment regarding proposed R.C.S.A. section 22a-174-22c(e)(9):** The phrase in subdivision (e)(9) “Prior to the allowance transfer deadline of the 2009 control period” is not

consistent with the allocation timing requirements of §51.123(aa)(2)(iii)(C) and with subsection (d). The language must be removed or changed to read "By July 31 of the 2009 control period and each control period thereafter."

**Commenter submitting this comment:** 9

**Response:** The Department should revise the first sentence in proposed R.C.S.A. section 22a-174-22c(e)(9) as follows:

~~Prior to the allowance transfer deadline~~ **By July 31** of the 2009 control period and each control period thereafter, the Commissioner shall:

Such change, however, necessitates the addition of language regarding information needed in order to determine New Unit allocations. The Department should add the following language to R.C.S.A. section 22a-174-22c(i)(2)(B):

The owner or operator of each New Unit operating in the first control period following the date of commencement of operation shall by July 1 of that first control period report to the Commissioner an estimate of the total number of hours of operation for the control period. **The owner or operator of each New Unit operating in the second and later control periods following the date of commencement of operation shall by July 1 of such second and later control periods report to the Commissioner the number of hours the unit operated during the prior control period, rounded to the nearest whole hour by rounding down for decimals less than 0.5, and rounded up for decimals of 0.5 or greater.**

#### F. Energy Efficiency and Renewable Energy Set-Aside (EERESA) Allocation

**1. Comment regarding an alternative allocation approach for energy efficiency and renewable energy resources:** As an alternative, energy efficiency and renewable energy resources could become part of the main allocation pool, based on their generation/reduced consumption, on the same basis as all other generators. This is the simplest and most equitable allocation approach and allows these resources to be considered on the same basis as conventional resources. Wisconsin has taken this approach in its CAIR program.

**Commenter submitting this comment:** 13

**Response:** As stated in the response to comment 5 in section E of this report, the Department does not have any experience implementing an EE/RE set-aside allocation program. The Department's proposed EE/RE set-aside allocation program is designed to encourage all sizes of EE/RE projects, including smaller projects. Wisconsin allows renewable units greater than 25 MW to participate in its CAIR trading program (aggregating units serving generators with combined nameplate capacity of greater than 25 MW is allowed). Wisconsin does not include energy efficiency projects in its CAIR program. Given the size of Connecticut's CAIR budget and the goal of the Department's EE/RE set-aside program, the Department should not include EE/RE resources into the main allocation pool at this time. However, the Department should investigate the feasibility of including EE/RE resources in the main allocation pool during the future EE/RE set-aside allocation program review.

Note recommended change of EE/RE set-aside allocation program review date in response to comment 4 of this section of this report.

**2. Comment regarding the allocation approach for small CHP facilities in proposed R.C.S.A. section 22a-174-22c(f)(1)(F):** Allocations to small CHP facilities are addressed through a series of equations under the Energy Efficiency and Renewable Energy set-aside. Unfortunately, the equations do not seem to accomplish the calculation described in the text, nor do they equate to a number of tons of allowances. The proposed allocation methodology allocates allowances based on the efficiency differences of a CHP unit versus comparable, separate heat and power generation. This fails to recognize the efficiency gains of generating heat and power from a single fuel source. It is suggested that the allocation be done on the same basis as the large CHP systems; the combined thermal and electric output times 1.5 lb NO<sub>x</sub>/MWh. Consistency for CHP units throughout the proposed rule will not only effectively reward efficient energy generation but make the NO<sub>x</sub> ozone season program easier for the Agency to administer.

An alternative recommendation is that Connecticut take the approach taken by some other states, which is to calculate NO<sub>x</sub> from conventional systems based on 34% efficiency and 0.15 lb/MMBtu for power plants, and on 80% efficiency and 0.17 lb/MMBtu for boilers.

**Commenters submitting this comment:** 9, 12, 13

**Response:** There is an error in the numerator of the current equation defining NO<sub>x</sub>CONV. The Department should revise the equation defining NO<sub>x</sub>CONV in proposed R.C.S.A. section 22a-174-22c(f)(1)(F) as follows:

$$\text{NO}_{x\text{CONV}} = \left[ \frac{\text{NEE} \times \left( \frac{3412 \text{ Btu}}{\text{kWh}} \right) + \frac{\text{NUTE}}{0.8}}{1,000,000 \frac{\text{Btu}}{\text{mmBtu}}} \right] \times 0.15 \frac{\text{lb}}{\text{mmBtu}}$$

The Department should also revise the equation defining NO<sub>x</sub>CHP as follows:

$$\text{NO}_{x\text{CHP}} = \left[ \frac{\text{HI}}{1,000,000 \frac{\text{Btu}}{\text{mmBtu}}} \right] \times \text{NO}_{x\text{RATE}}$$

Also see response to comment 6 of section E of this report for discussion of recommended allocation methodology to Cogeneration Units.

**3. Comment regarding proposed R.C.S.A. section 22a-174-22c(f)(3)(E):** Currently, subsection (f)(3)(E) states that “if more than one proponent submits an application for the same project for the same calendar year, the Commissioner, at his or her discretion, may refuse to accept such applications...” We believe that subsection (f)(3)(E) can be improved in a manner that:

- (1) directs incentives in a way that support financing of new projects to the greatest extent possible; and
- (2) reduces the administrative burden on the Department.

The CAIR should include a presumption that the owner of the project is the “proponent” who will receive the NO<sub>x</sub> allowances unless the project contract specifies otherwise. This approach best serves the goal of aligning the incentives with the parties most responsible for development of new projects. By providing potential owners with increased certainty that they (and not another “proponent”) will ultimately receive these allowances, this provision will better serve as a catalyst for the development of new projects. Inclusion of this language in the rule also will provide a signal to project developers of the need to include precise language on the ownership of allowances in their contract with other parties. If they do not, project owners should enjoy the presumption that the allowances will be allocated to them.

**Commenter submitting this comment:** 10

**Response:** See response to comment 13 in section A of this report. The Department should not change proposed section 22a-174-22c(f)(3)(E) as a result of this comment.

**4. Comment regarding proposed R.C.S.A. section 22a-174-22c(f)(7):** We support the concept incorporated in the proposed CAIR of requiring the review of the operation of the EE/RE set-aside allocation program several years after its establishment. However, we believe that the timing and criteria for this review process set forth in subsection (f)(7) should be refined in several ways.

First, Connecticut should require the review of the EE/RE set-aside allocation program earlier than 2012 to provide time for regulatory changes if problems emerge. The Department is required to award allowances well in advance of the corresponding NO<sub>x</sub> control period, and the review of the EE/RE set-aside allocation program should occur before the second stage of CAIR implementation begins in the 2015 control period. Since NO<sub>x</sub> allowances for the 2015 control period will be awarded no later than October 31, 2011, the provision for review of the EE/RE set-aside allocation program should be completed before that time to allow for any necessary changes. We propose that the Department complete its review of the EE/RE set-aside allocation program by late 2010 so that the revisions can be implemented before the 2015 control period.

Second, the EERESA program review should consider additional criteria, such as the benefits of the EE/RE set-aside allocation program in facilitating attainment of the National Ambient Air Quality Standards (NAAQS). We believe that the Department will find EE/RE measures as a useful tool in meeting attainment goals for ozone and fine particulate matter, and this additional benefit of EE/RE should be a factor in evaluating the success of the EE/RE set-aside allocation program. In addition, because the EE/RE set-aside helps provide the long-term certainty attractive to project developers and investors, we recommend that the factor “success in



promoting energy efficiency” be changed to “financing benefits in facilitating energy efficiency and renewable energy projects.”

**Commenter submitting this comment: 10**

**Response:** Unlike other states, Connecticut’s CAIR NO<sub>x</sub> Ozone Season budget is the same for both 2009 and 2015. As such, there is no second stage of CAIR implementation in Connecticut. However, in order to be consistent with the allocation methodology review recommendation in the response to comment 1 of section E of this report, the Department should conduct the EE/RE set-aside allocation program review in 2010, but it should be at the Commissioner’s discretion instead of required.

The Department should not specifically list “the benefits of the EE/RE set-aside in facilitating attainment of the NAAQS” in the EE/RE set-aside allocation program review at this time because such factor is not the primary goal of the EE/RE set-aside allocation program. The primary goal of the EE/RE set-aside allocation program is encouraging energy efficiency and renewable energy projects. However, if the Department intends to pursue obtaining SIP credit through implementation of the EE/RE set-aside allocation program in the future, it may be helpful to consider the EE/RE set-aside allocation program in the context of achieving attainment of the NAAQS. The current language in proposed R.C.S.A. section 22a-174-22c(f)(7) (“...including, but not limited to...”) allows the Department to consider factors other than those currently listed, such as benefits of the EE/RE set-aside in facilitating attainment of the NAAQS.

The Department should revise proposed R.C.S.A. section 22a-174-22c(f)(7) as follows:

In ~~2012~~**2010**, the Commissioner ~~will~~ **may** conduct a review of the Energy Efficiency and Renewable Energy Set-Aside Allocation program, including, but not limited to, the following factors:

- (A) Success in ~~promoting~~ **facilitating** energy efficiency **and renewable energy projects**;
- (B) Impacts on CAIR NO<sub>x</sub> Ozone Season allowance price and availability; and
- (C) Appropriateness of the size of the EERESA.

**G. Allowance tracking and banking; monitoring; record keeping and reporting; and other requirements**

**1. Comment regarding proposed section 22a-174-22c(i)(1)(A):** Some of the definitions in subsection (a)(i.e., “CAIR NO<sub>x</sub> Ozone Season unit,” “Commence commercial operation,” and “Commence operation”) are intended to replace the definitions of these terms in 40 CFR 96.302, and to be used in the incorporated provisions of the model NO<sub>x</sub> ozone season trading rule. Subdivision (i)(1)(A) must be revised to state that the terms are defined “as in 40 CFR 96.302, except for the terms ‘CAIR NO<sub>x</sub> Ozone Season unit,’ ‘Commence commercial operation,’ and ‘Commence operation,’ which are defined in subsection (a) of this section.”

**Commenter submitting this comment: 9**

**Response:** Proposed R.C.S.A. subsection (a) states that “For the purposes of this section, the following definitions apply, provided that any term related to the administration of this section that is not defined in this subsection shall be as defined or described in 40 CFR 96 subpart AAAA and any remaining terms not defined shall be as defined in section 22a-174-1 of the Regulations of Connecticut State Agencies:”. To be consistent with this language, the Department should revise proposed R.C.S.A. section 22a-174-22c(i)(1)(A) as follows:

Terms used in the incorporated sections of the CFR shall be defined as in 40 CFR 96.302, **unless defined pursuant to subsection (a) of this section;**

**2. Comment regarding proposed R.C.S.A. section 22a-174-22c(i)(2)(A):** The term “net electric output” must be replaced with “net electricity output,” which is defined in subsection (a).

**Commenter submitting this comment:** 9

**Response:** The Department should revise proposed R.C.S.A. section 22a-174-22c(i)(2)(A) as follows:

By October 31 of each year, the owner or operator of each CAIR NO<sub>x</sub> Ozone Season unit shall report to the Commissioner the metered net electricity output (in MWh) and useful steam output (in mmBtu) for the facility at which the unit is located for that year’s control period. If data for steam output is not available, the owner or operator may report heat input providing useful steam output as a surrogate for useful steam output; and

**3. Comment regarding proposed R.C.S.A. section 22a-174-22c(i)(3):** The term “CEMS,” which is defined in 40 CFR 96.302, must be used rather than “CEM,” which is undefined.

**Commenter submitting this comment:** 9

**Response:** The term CEM is defined in R.C.S.A. section 22a-174-1. However, the Department should revise proposed section 22a-174-22c(i)(3) to be consistent with 40 CFR Part 96 as follows:

Monitoring and related reporting requirements. The requirements of 40 CFR 96.374(d)(2)(ii) shall only apply to those owners and operators of CAIR NO<sub>x</sub> Ozone Season units that are not subject to an Acid Rain emissions limitation and are not monitoring NO<sub>x</sub> emissions using a **Continuous emission monitoring system (CEMS)**.

**4. Comment regarding proposed R.C.S.A. section 22a-174-22c(i)(4):** The provision in subdivision (i)(4) should be clarified. Allowance deductions by the Administrator for excess emissions are specified in 40 CFR 96.354(d) – this must be referenced instead of 40 CFR 96.306(d), which addresses only the surrender obligation of the owners and operators.

**Commenter submitting this comment:** 9

**Response:** The Department should make the recommended change in the above comment. In addition, the Department should remove the unnecessary and confusing phrase at the beginning of the paragraph. The Department should revise section 22a-174-22c(i)(4) as follows:

Additional excess emissions requirements. ~~For the 2009 compliance period,~~ The Administrator shall deduct, for excess emissions in the 2008 control period determined according to section 22a-174-22b of the Regulations of Connecticut State Agencies, CAIR NO<sub>x</sub> Ozone Season allowances allocated for the 2009 control period in the manner specified in 40 CFR ~~96.306(d)~~ **96.354(d)** for excess emissions in the 2009 compliance period and beyond.

Specific comment regarding R.C.S.A. section 22a-174-22b

**1. Comment regarding allocation of NO<sub>x</sub> allowances in the 2007 and 2008 control periods to reward renewable energy purchases by government entities, businesses, or academic institutions:** The current NO<sub>x</sub> Budget regulations allocate allowances on a heat-input basis. As a result, all allowances are allocated to fossil fuel generators, and no allowances are available to encourage renewable energy generation. This current regulatory approach discourages renewable purchases by government entities and businesses who could reduce their purchases of electricity from fossil fuel-fired plants. Such renewable energy purchases would reduce greenhouse gas emissions and reduce compliance costs for fossil fuel generators. However, the regulatory incentives are not aligned properly to achieve this result.

Therefore, we urge the Department to expand the scope of the proposed regulation and to modify the existing NO<sub>x</sub> Budget Rule. The expansion should authorize the Department to allocate NO<sub>x</sub> allowances (from the new source allowance pool or other available allowance pool) to government entities and businesses purchasing renewable energy for the control periods 2007 and 2008. It is our understanding that the new source allowance pool has been underutilized, and the proposed approach properly rewards renewable sources that help meet electricity demand in Connecticut. Although the EE/RE set-aside in the proposed CAIR will achieve the same objective, the recommended change is needed to encourage renewable energy purchases in 2007 and 2008. In the suggested revision for 2007 and 2008, renewable energy should be defined as zero-emission energy sources as defined in State law.

Our recommendation is especially important at a time of escalating electricity rates spurred by high fossil fuel prices. We believe that it is extremely important to encourage renewable purchases immediately rather than waiting until 2009 to change the applicable regulations. Connecticut citizens should receive immediate health and economic benefits resulting from the displacement of NO<sub>x</sub> emissions from conventional generation. In the long-term, increased renewable purchases will help to moderate fuel price volatility by providing a zero-cost fuel in the energy mix.

**Commenter submitting this comment:** 10

**Response:** The subject of this hearing in the context of R.C.S.A. section 22a-174-22b is whether or not to repeal said regulation; the subject of this hearing is not the content of R.C.S.A. section 22a-174-22b. That being said, if the Department were to propose a change to the content of section 22a-174-22b, the timeframe for the regulatory process in Connecticut is such that the benefits of instituting such a change would only be realized for one control period at the most (2008).

The Department should not make any changes to the proposal as a result of this comment.

Additional Comments of the Hearing Officer

The Department should make the following technical corrections to the proposed regulation:

**1. Subsection 22a-174-22c(a):** The Department should number the definitions and make formatting changes to the definitions as follows:

- (1) “CAIR NO<sub>x</sub> Ozone Season unit” means a unit that:
  - (A) Is a “CAIR NO<sub>x</sub> Ozone Season unit” under 40 CFR 96.302; or
  - (B) Satisfies the criteria in one of the following subparagraphs:
    - (i) Is a fossil-fuel-fired emission unit that operated at any time during the period from May through September 1990 and that serves a generator with a nameplate capacity between fifteen (15) and twenty-five (25) megawatts,
    - (ii) Is a fossil-fuel-fired emission unit that serves a generator that generates electricity at a rated output of fifteen (15) megawatts or more by employing “cogeneration technology,” as defined in section 16-1(a)(21) of the Connecticut General Statutes,
    - (iii) Is a fossil-fuel-fired boiler or indirect heat exchanger with a maximum design heat input of 250 MMBtu/hr or more, or
    - (iv) Is a fossil-fuel-fired emission unit that began operating after September 30, 1990 and that serves a generator that generates electricity at a rated output between fifteen (15) and twenty-five (25) megawatts.

*Also note recommended change to this definition in response for comment 2 of section A of this report.*

(2) “CAIR NATS” means “CAIR NO<sub>x</sub> Ozone Season Allowance Tracking System” as defined in 40 CFR 96.302.

(3) “Coal-fired” means combusting any amount of coal or coal-derived fuel, alone or in combination with any amount of any other fuel, during any year.

(4) “Cogeneration Unit” means, with regard to an emission unit that is a CAIR NO<sub>x</sub> Ozone Season unit pursuant to subparagraph (B) of the definition of “CAIR NO<sub>x</sub> Ozone Season unit” in subsection (a) of this section, a stationary, fossil-fuel-fired emission unit that serves a generator that generates electricity at a rated output of fifteen (15) megawatts or more by employing “cogeneration technology” as defined in section 16-1(a)(21) of the Connecticut General Statutes.

*Also note recommended change to this definition in response for comment 3 of section A of this report.*

(5) “Combined heat and power system” or “CHP system” means a generation unit that sequentially produces both electric power and thermal energy from a single source.

- (6) "Commence commercial operation" means, with regard to a unit, to have begun to produce steam, gas or other heated medium used to generate electricity for sale or use, including test generation, except as provided in 40 CFR 96.305 and in the following subparagraphs:
- (A) For a unit that is a CAIR NO<sub>x</sub> Ozone Season unit on the later of November 15, 1990 or the actual date on which the unit commences commercial operation as defined above, the date the unit commences commercial operation shall not change if the unit subsequently undergoes a physical change including replacement;
  - (B) For a unit that is not a CAIR NO<sub>x</sub> Ozone Season unit on the later of November 15, 1990 or the actual date on which the unit commences commercial operation as defined above, the date the unit commences commercial operation shall be the date on which the unit becomes a CAIR NO<sub>x</sub> Ozone Season unit. Such date shall remain the date of commencement of commercial operation if the unit subsequently undergoes a physical change including replacement;
  - (C) For a unit that replaces a CAIR NO<sub>x</sub> Ozone Season unit, such replacement unit shall have a date of commencement of commercial operation determined as indicated in this definition; and
  - (D) For a unit not serving a generator producing electricity for sale, the unit's date of commencement of commercial operation shall be the unit's date of commencement of operation.

*Also note recommended change to this definition in response for comment 4 of section A of this report.*

- (7) "Commence operation" means:
- (A) To have begun any mechanical, chemical, or electronic process, including, with regard to a unit, start-up of a unit's combustion chamber, provided that:
    - (i) For a unit that undergoes a physical change other than replacement of the unit by a unit at the same source after the date the unit commences operation as defined in subparagraph (A) of this definition, such date shall remain the date of commencement of operation of the unit, which shall continue to be treated as the same unit, and
    - (ii) For a unit that is replaced by a unit at the same source after the date the unit commences operation as defined in subparagraph (A) of this definition, such date shall remain the replaced unit's date of commencement of operation, and the replacement unit shall be treated as a

separate unit with a separate date for commencement of operation as defined in subparagraphs (A)(i) or (A)(ii) of this definition, as appropriate.

- (B) Notwithstanding subparagraph (A) of this definition, and solely for purposes of 40 CFR 96, subpart HHHH, for a unit that is not a CAIR NO<sub>x</sub> Ozone Season unit on the later of November 15, 1990 or the date the unit commences operation as defined in subparagraph (A) of this definition and that subsequently becomes a CAIR NO<sub>x</sub> Ozone Season unit, the unit's date for commencement of operation shall be the date on which the unit becomes a CAIR NO<sub>x</sub> Ozone Season unit provided that:
- (i) For a unit that subsequently undergoes a physical change other than replacement of the unit by a unit at the same source after the date the unit commences operation as defined in subparagraph (B) of this definition, such date shall remain the date of commencement of operation of the unit, which shall continue to be treated as the same unit, and
  - (ii) For a unit that is replaced by a unit at the same source after the date the unit commences operation as defined in subparagraph (B) of this definition, such date shall remain the replaced unit's date of commencement of operation, and the replacement unit shall be treated as a separate unit with a separate date for commencement of operation as defined in subparagraph (A) or (B) of this definition, as appropriate.

(8) "Energy efficiency project" or "EEP" means the installation or implementation at a stationary source of one or more of the measures listed **in subparagraphs (A) through (E) of this definition** that is not otherwise required by law or regulation and that results in energy savings at a facility located in the State of Connecticut:

- (A) The construction of a new building or addition that exceeds the minimum energy efficiency requirements of the State Building code;
- (B) The installation, replacement or modification of equipment, fixtures or materials;
- (C) The commencement or modification of building or facility operation and maintenance procedures;
- (D) A combined heat and power system; or
- (E) Any other measure approved by the Commissioner in writing.

Projects that do not result in energy savings, such as reductions in labor and load shifting, projects resulting in energy savings for a CAIR NO<sub>x</sub> Ozone Season Unit and mobile source measures are not considered EEPs.

(9) "Energy Efficiency and Renewable Energy Set-Aside Baseline Period" or "EERESA Baseline Period" means either of the two control periods, as approved by the Commissioner, preceding the year in which an EEP, a renewable energy project (REP) or a qualifying other project (QOP), as defined in this section, is first put in use or first becomes operational. The EERESA Baseline Period remains constant when calculating CAIR NO<sub>x</sub> Ozone Season allowance allocations for such REP, EEP or QOP in any subsequent year.

(10) "EERESA Representative" means a person who aggregates any combination of one or more renewable energy projects, energy efficiency projects or qualifying other projects, to equal at least one whole allowance, or who aggregates two or more years of operation by a single project, to equal at least one whole allowance. An EERESA representative includes, but is not limited to, the following: a common owner of the aggregated projects, an energy service company, an emission trading broker or a state or municipal entity.

(11) "Fossil-fuel-fired" means, with regard to an emission unit that is a CAIR NO<sub>x</sub> Ozone Season unit pursuant to subparagraph (B) of the definition of "CAIR NO<sub>x</sub> Ozone Season unit" in subsection (a) of this section, the combination of fossil fuel, any derivative of fossil fuel alone, or a combination of fuels, of which fossil fuel:

- (A) Comprises more than fifty percent (50%) of the annual heat input (in Btu) in 1990 or any year thereafter; or
- (ii) Is projected to comprise more than fifty percent (50%) of the annual heat input (in Btu), provided that the Commissioner shall consider an emission unit as "fossil-fuel fired" upon the date such emission unit begins combusting fossil fuel.

*Also note recommended change to this definition in response for comment 7 of section A of this report.*

(12) "Gross energy input" means total fuel-related heat input in Btus per unit of time, based upon the higher heating value of fuel.

(13) "Indirect heat exchanger" means combustion equipment in which the flame or products of combustion are separated from any contact with the principal material in the process by metallic or refractory walls, and that emits exhaust gases only through a stack. Indirect heat exchangers include, but are not limited to, steam boilers, vaporizers, melting pots, heat exchangers, column reboilers, fractioning column feed preheaters, reactor feed preheaters, pyrolysis heaters and fuel-fired reactors.

(14) "Industrial Unit" means a fossil-fuel-fired boiler or indirect heat exchanger with a maximum design heat input of 250 MMBtu/hr or more.

(15) "Nameplate capacity" means, with regard to an emission unit that is a CAIR NOx Ozone Season unit pursuant to subparagraph (B) of the definition of "CAIR NOx Ozone Season unit" in subsection (a) of this section, the maximum electrical generating output (in MW electrical) that a generator can sustain over a specified period of time when not restricted by seasonal or other deratings as measured in accordance with the United States Department of Energy standards.

*Also note recommended change to this definition in response for comment 8 of section A of this report.*

(16) "Net electricity output" means the gross electric generation (in MWh) less any of the energy output consumed in the process of generation.

(17) "New Unit" means any fossil-fuel-fired unit that commences operation on or after January 1, 2001 and that serves a generator that generates electricity at a rated output of fifteen (15) megawatts or more, for the period of time commencing with initial operation through operation during the sixth control period or portion thereof following date of initial operation. When operating during the seventh and later control periods, or portion thereof, following the date of initial operation, such a unit is no longer considered a New Unit but is considered, for the purpose of CAIR NOx Ozone Season allowance allocation for all control periods thereafter, a Cogeneration Unit, an Industrial Unit or a Phase II Unit.

*Also note recommended change to this definition in response for comment 9 of section A of this report.*

(18) "Normal system operation" means all times of operation except periods of startup, shutdown or malfunction; Commissioner-approved stack testing; or intentional sootblowing, fuel switching or sudden load changing.

(19) "Permitting authority" shall mean "Commissioner" as defined in section 22a-174-1 of the Regulations of Connecticut State Agencies.

*Also note recommended change to this definition in response for comment 11 of section A of this report.*

(20) "Phase I Unit" means a CAIR NOx Ozone Season unit that is a fossil-fuel-fired unit that operated at any time prior to November 15, 1990 and that serves a generator with a nameplate capacity of fifteen (15) megawatts or more.

(21) "Phase II Unit" means a fossil-fuel-fired unit that began operating on or after November 15, 1990, that serves a generator that generates electricity at a rated output of fifteen (15) megawatts or more and that is operating in the seventh or later control period following the date of commencement of initial operation. For the purposes of this definition, operation during any portion of a control period qualifies as operation in that control period.



*Also note recommended change to this definition in response for comment 9 of section A of this report.*

(22) "Proponent" means any person who owns, leases, operates or controls an energy efficiency project, a renewable energy project or a qualifying other project, or an EERESA representative.

(23) "Prospective project" means a REP, EEP or QOP that is not in operation but for which the owner has awarded contracts for installation or purchase of components or begun on-site construction or installation.

(24) "Qualifying other project" or "QOP" means the implementation or installation of a measure at a stationary source that is not otherwise required by law or regulation, that results in thermal or electric energy savings, that is not an EEP or a REP and that is approved by the Commissioner in writing.

(25) *Note recommended addition of definition of Reciprocating grate waste tire fired Unit in response for comment 10 of section E of this report.*

(26) "Renewable energy" means energy generated by one or more of the following fuels, energy resources or technologies, and that does not emit NO<sub>x</sub>: solar photovoltaic or solar thermal energy; wind energy; fuel cells, which do not employ a fuel processor that emits NO<sub>x</sub>; ocean thermal, wave or tidal energy; or hydro and geothermal energy.

(27) "Renewable energy project" or "REP" means one or more generation units producing renewable energy, located in the State of Connecticut or directly and solely connected to transmission facilities in the State of Connecticut, exclusive of a generation unit that has been awarded CAIR NO<sub>x</sub> Ozone Season allowances under another program administered by federal or state government.

(28) "State Building Code" means the State Building Code established by section 29-252 of the Connecticut General Statutes.

(29) "State trading budget" means "Connecticut emission budget" as identified in subsection (c) of this section.

(30) "Unit of production" means a manufactured item or raw, intermediate or final material, including steam or other product, measured in discrete units and produced as a result of the consumption of energy in a specific process or by a piece of equipment.

(31) "Useful net thermal energy" means, for a REP generating thermal energy or for use of a combined-heat-and-power CHP system, the energy output of thermal energy used for heating, cooling, industrial processes or other beneficial uses.

**2. Sections 22a-174-22c(e)(7)(A)(iii) and 22a-174-22c(e)(8)(A)(iii):** The Department should revise the control periods referenced as follows:

22a-174-22c(e)(7)(A)(iii)

the average of the unit's actual NO<sub>x</sub> emission rate (in lb/mmBtu of heat input) during the ~~2000 through 2004~~ **2005 and 2006** control periods.

*Note other suggested revision to this section in the response to comment 12 in section E of this report.*

22a-174-22c(e)(8)(A)(iii)

the average of the unit's actual NO<sub>x</sub> emission rate (in lb/mmBtu of heat input) during the ~~2000-2004~~ **5<sup>th</sup> and 6<sup>th</sup>** control periods-**preceding the year of allocation.**

**3. Section 22a-174-22c(e)(9)(C):** The Department should revise the meaning of the terms A<sub>ALLOCATED-NU</sub>, A<sub>ALLOCATED-P</sub>, and EO<sub>U</sub> as follows:

A<sub>ALLOCATED-NU</sub> = ~~the~~**The** number of CAIR NO<sub>x</sub> Ozone Season allowances allocated to New Units pursuant to subdivision (9)(A) of this subsection for the current year control period.

A<sub>ALLOCATED-P</sub> = ~~the~~**The** number of CAIR NO<sub>x</sub> Ozone Season allowances allocated to Proponents pursuant to subsection (f) of this section for the current year control period.

EO<sub>U</sub> = **For the years 2009-2011**, each Phase I and Phase II Unit's average net electricity output (in MWh) during the 2005 and 2006 control periods. **For the year 2012 and each year thereafter, each Phase I and Phase II Unit's average net electricity output (in MWh) during the 5<sup>th</sup> and 6<sup>th</sup> control periods preceding the year of allocation.**

*Note other suggested revision to this section in the response to comment 12 of section E of this report.*

**4. Section 22a-174-22c(f)(1)(D)(ii):** The Department should revise the last sentence of the section as follows:

If monthly data for energy consumed is not available then energy savings shall be calculated by comparing the energy consumed during the calendar year immediately preceding the year the application is submitted to the amount of thermal energy that would have been consumed at the same occupancy level during the calendar year if the building or addition had been constructed according to the minimum energy efficiency requirements of the State Building Code, multiplied by five-twelfths;

5. Sections 22a-174-22c(f)(4)(A) and (C): For clarification purposes, the Department should revise sections 22a-174-22c(f)(4)(A) and (C) as follows:

- (A) Adhering to the requirements of the International Performance Measurement and Verification Protocol, as revised in March 2002, DOE/GO-102002-1554 (<http://www.ipmvp.org>) or the U.S. Environmental Protection Agency's Conservation Verification Protocol; and
- (D) Making the normalization adjustments for energy savings in accordance with the International Performance Measurement and Verification Protocol, as revised in March 2002, DOE/GO-102002-1554; or

6. Sections 22a-174-22c(i)(1)(B), (C), and (D): For clarification purposes, the Department should revise sections 22a-174-22c(i)(1)(B), (C), and (D) as follows:

- (B) To the extent that ~~the text referenced in~~ Table 22c-1 of this section refers to **text in 40 CFR 96 that includes** the Hg Budget Trading Program, CAIR SO<sub>2</sub> trading, CAIR NO<sub>x</sub> Annual Trading Program, 40 CFR 96 subpart III and CAIR NO<sub>x</sub> Ozone Season Opt-in Unit, such references are not incorporated by reference;
- (C) To the extent the ~~incorporated~~ federal regulations **incorporated into this section** refer to CAIR NO<sub>x</sub> Ozone Season Allowance Allocations, Subpart EEEE and 40 CFR 96.340-42, such references shall be replaced with subsections (c), (d), (e) or (f) of this section, as appropriate; and
- (D) To the extent the ~~incorporated~~ federal regulations **incorporated into this section** refer to 40 CFR 96.304, such references shall be replaced with subsection (b) of this section.

7. Table 22c-1: The Department should revise the heading of Table 22c-1 as follows:

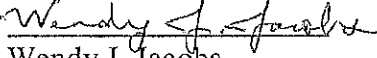
<p>Table 22c-1 40 Code of Federal Regulations Part 96 Provisions Incorporated by Reference as of <del>April 28</del> <b>December 13, 2006</b></p>
---

## VII. Final Text of Proposal

The final text of the proposal, inclusive of the changes recommended in this report, is located at Attachment 3 to this report.

## VIII. Conclusion

Based upon the comments submitted by interested parties and addressed in this Hearing Report, we recommend the final proposed regulatory repeals and adoption, as contained in Attachment 3 to this report, be submitted by the Commissioner for approval by the Attorney General and the Legislative Regulations Review Committee. Based upon the same considerations, we also recommend that upon promulgation the regulatory repeals and adoption be submitted to EPA as revisions to the State Implementation Plan in satisfaction of 40 CFR 51.123 and as control measures in Connecticut's plan to attain and maintain the national ambient air quality standard for ozone.

  
Wendy J. Jacobs  
Hearing Officer

April 10, 2007  
Date

Attachment 1  
List of Commenters

<sup>a</sup>Denotes commenters who testified at the public hearing

<sup>b</sup>Denotes commenters who submitted written comments

1. Michael I. Holzman<sup>a, b</sup>  
M.I. Holzman & Associates, LLC  
57 Mountain View Drive  
West Hartford, CT 06117
  
2. Don DiCristofaro<sup>a, b</sup>  
President  
Blue Sky Environmental LLC  
1040 Great Plain Avenue, 2<sup>nd</sup> Floor  
Needham, MA 02492
  
3. Robert Silvestri<sup>a</sup>  
Robert T. Parnell<sup>b</sup>  
Director of Asset Operations  
PSEG Power Connecticut LLC  
Bridgeport Harbor Station  
1 Atlantic Street  
Bridgeport, CT 06604-5513
  
4. Roger Smith<sup>a, b</sup>  
Campaign Director  
Clean Water Action  
645 Farmington Avenue  
3<sup>rd</sup> Floor  
Hartford, CT 06105
  
5. Alice Liddell<sup>a, b</sup>  
Policy Analyst  
Derek Murrow<sup>b</sup>  
Director of Policy Analysis  
Environment Northeast  
101 Whitney Avenue  
New Haven, CT 06510
  
6. Thomas E. Atkins<sup>b</sup>  
Director  
Waterside Power, LLC  
1040 Great Plain Avenue  
Needham, MA 02492

7. Thomas E. Atkins<sup>b</sup>  
President  
Pinpoint Power, LLC  
1040 Great Plain Avenue  
Needham, MA 02492
8. Patricia Lucas<sup>b</sup>  
Vice President, Operations  
Capitol District Energy Center Cogeneration Associates  
490 Capital Avenue  
Hartford, Connecticut 06106
9. David Conroy<sup>b</sup>  
Chief  
United States Environmental Protection Agency  
Region 1  
1 Congress Street, Suite 1100  
Boston, Massachusetts 02114-2023
10. Robert Wall<sup>b</sup>  
New England Regional Director  
Smart Power  
100 Pearl Street -- 14<sup>th</sup> Floor  
Hartford, CT 06103  
  
Alden Hathaway<sup>b</sup>  
Director  
EcoPower Programs  
Environmental Resources Trust  
1612 K Street, N.W.  
Washington, D.C. 20006  
  
Debra Jacobson<sup>b</sup>  
Lecturer in Law, GWU Law School  
Owner, DJ Consulting LLC  
1703 Fairview Avenue  
McLean, VA 22101  
(attachment to original e-mail (received at 2:44 PM) arrived at 5:51 PM).
11. Terri S. Kinney<sup>b</sup>  
Outreach Director  
CT Fund for the Environment  
205 Whitney Ave., 1<sup>st</sup> Floor  
New Haven, CT 06511

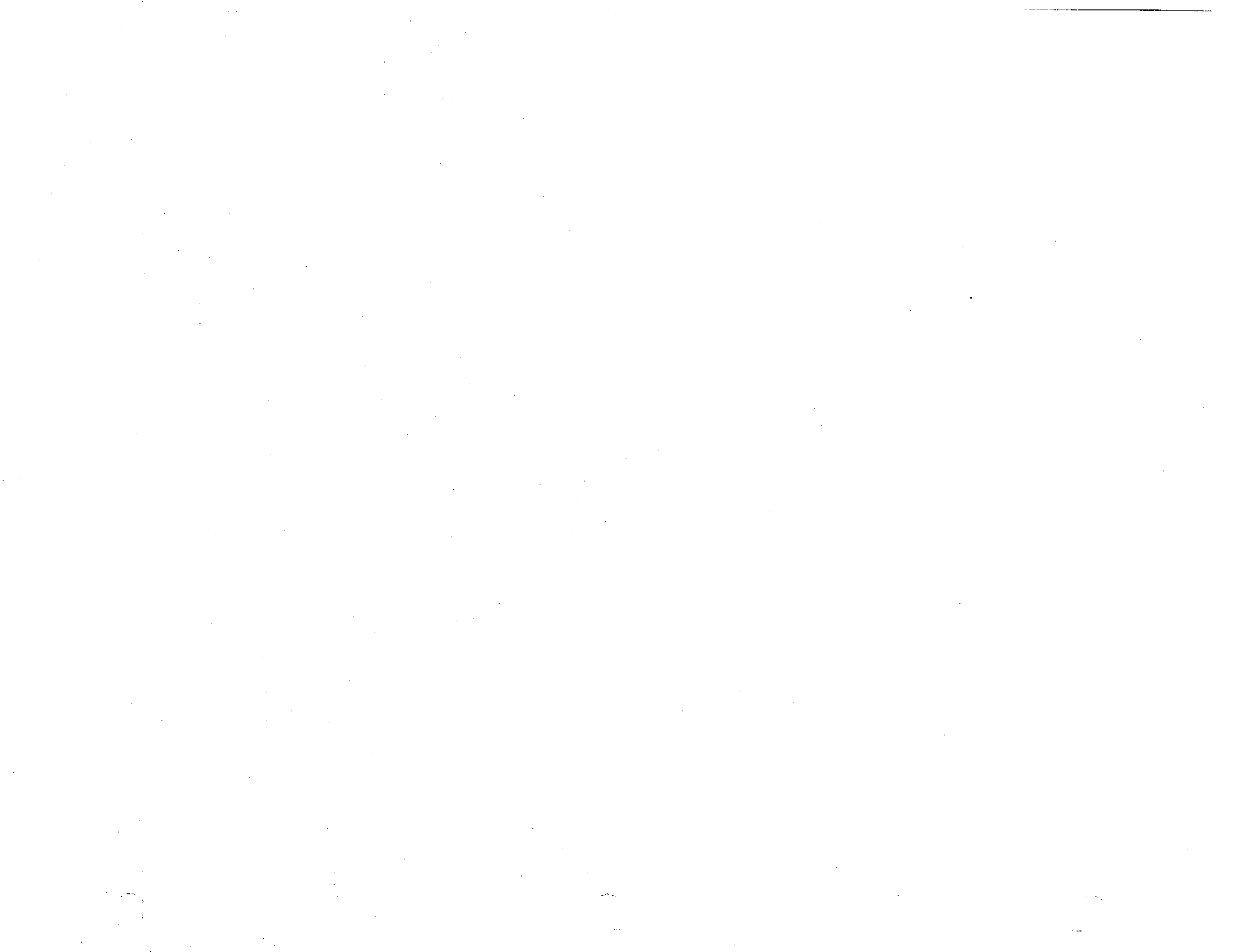
12. Thor W. Ketzback<sup>b</sup>  
United States Combined Heat & Power Association National Office  
218 D Street, S.E.  
Washington, D.C. 20003
13. Lisa Jacobson<sup>b</sup>  
Executive Director  
The Business Council For Sustainable Energy  
1400 1 Street, NW  
Suite 1260  
Washington, DC 20005
14. Cynthia Karlic<sup>b</sup>  
Regional Environmental Manager  
NRG Energy, Inc.  
P.O. Box 1001  
1866 River Road  
Middletown, CT 06457
15. James Carlton, Jr.<sup>b</sup>  
President and Chief Operating Officer  
Lake Road Generating Company, L.P.  
56 Alexander Parkway  
Dayville, CT 06241
16. Mark Boucher<sup>b</sup>  
Vice President  
AES Thames LLC





Attachment 2

Text of Proposed Regulations



**DRAFT FOR NOTICE**

**Section 1.** As of May 1, 2009, Section 22a-174-22a of the Regulations of Connecticut State Agencies is repealed.

**Sec. 2.** As of May 1, 2010, Section 22a-174-22b of the Regulations of Connecticut State Agencies is repealed.

**Sec. 3.** The Regulations of Connecticut State Agencies are amended by adding a new section 22a-174-22c as follows:

(NEW)

**Sec. 22a-174-22c. The Clean Air Interstate Rule (CAIR) Nitrogen Oxides (NO<sub>x</sub>) Ozone Season Trading Program**

(a) **Definitions.** For the purposes of this section, the following definitions apply, provided that any term related to the administration of this section that is not defined in this subsection shall be as defined or described in 40 CFR 96 subpart AAAA and any remaining terms not defined shall be as defined in section 22a-174-1 of the Regulations of Connecticut State Agencies:

“CAIR NO<sub>x</sub> Ozone Season unit” means a unit that:

- (A) Is a “CAIR NO<sub>x</sub> Ozone Season unit” as defined in 40 CFR 96.302; or
- (B) Satisfies the criteria in one of the following subparagraphs:
  - (i) Is a fossil-fuel-fired emission unit that operated at any time during the period from May through September 1990 and that serves a generator with a nameplate capacity between fifteen (15) and twenty-five (25) megawatts,
  - (ii) Is a fossil-fuel-fired emission unit that serves a generator that generates electricity at a rated output of fifteen (15) megawatts or more by employing “cogeneration technology,” as defined in section 16-1(a)(21) of the Connecticut General Statutes,
  - (iii) Is a fossil-fuel-fired boiler or indirect heat exchanger with a maximum design heat input of 250 MMBtu/hr or more, or
  - (iv) Is a fossil-fuel-fired emission unit that began operating after September 30, 1990 and that serves a generator that generates electricity at a rated output between fifteen (15) and twenty-five (25) megawatts.

“CAIR NATS” means “CAIR NO<sub>x</sub> Ozone Season Allowance Tracking System” as defined in 40 CFR 96.302.

“Coal-fired” means combusting any amount of coal or coal-derived fuel, alone or in combination with any amount of any other fuel, during any year.

“Cogeneration Unit” means, with regard to an emission unit that is a CAIR NO<sub>x</sub> Ozone Season unit pursuant to subparagraph (B) of the definition of “CAIR NO<sub>x</sub> Ozone Season unit” in subsection (a) of this section, a stationary, fossil-fuel-fired emission unit that serves a generator that generates electricity at a rated output of fifteen (15) megawatts or more by employing “cogeneration technology” as defined in section 16-1(a)(21) of the Connecticut General Statutes.

“Combined heat and power system” or “CHP system” means a generation unit that sequentially produces both electric power and thermal energy from a single source.

“Commence commercial operation” means, with regard to a unit, to have begun to produce steam, gas or other heated medium used to generate electricity for sale or use, including test generation, except as provided in 40 CFR 96.305 and in the following subparagraphs:

- (A) For a unit that is a CAIR NO<sub>x</sub> Ozone Season unit on the later of November 15, 1990 or the actual date on which the unit commences commercial operation as defined above, the date the unit commences commercial operation shall not change if the unit subsequently undergoes a physical change including replacement;
- (B) For a unit that is not a CAIR NO<sub>x</sub> Ozone Season unit on the later of November 15, 1990 or the actual date on which the unit commences commercial operation as defined above, the date the unit commences commercial operation shall be the date on which the unit becomes a CAIR NO<sub>x</sub> Ozone Season unit. Such date shall remain the date of commencement of commercial operation if the unit subsequently undergoes a physical change including replacement;
- (C) For a unit that replaces a CAIR NO<sub>x</sub> Ozone Season unit, such replacement unit shall have a date of commencement of commercial operation determined as indicated in this definition; and
- (D) For a unit not serving a generator producing electricity for sale, the unit’s date of commencement of commercial operation shall be the unit’s date of commencement of operation.

“Commence operation” means:

- (A) To have begun any mechanical, chemical, or electronic process, including, with regard to a unit, start-up of a unit’s combustion chamber, provided that:
  - (i) For a unit that undergoes a physical change other than replacement of the unit by a unit at the same source after the date the unit commences operation as defined in subparagraph (A) of this definition, such date shall remain the date of commencement of operation of the unit, which shall continue to be treated as the same unit, and
  - (ii) For a unit that is replaced by a unit at the same source after the date the unit commences operation as defined in subparagraph (A) of this definition, such date shall remain the replaced unit’s date of commencement of operation, and the replacement unit shall be treated as a

separate unit with a separate date for commencement of operation as defined in subparagraphs (A)(i) or (A)(ii) of this definition, as appropriate.

- (B) Notwithstanding subparagraph (A) of this definition, and solely for purposes of 40 CFR 96, subpart HHHH, for a unit that is not a CAIR NO<sub>x</sub> Ozone Season unit on the later of November 15, 1990 or the date the unit commences operation as defined in subparagraph (A) of this definition and that subsequently becomes a CAIR NO<sub>x</sub> Ozone Season unit, the unit's date for commencement of operation shall be the date on which the unit becomes a CAIR NO<sub>x</sub> Ozone Season unit provided that:
- (i) For a unit that subsequently undergoes a physical change other than replacement of the unit by a unit at the same source after the date the unit commences operation as defined in subparagraph (B) of this definition, such date shall remain the date of commencement of operation of the unit, which shall continue to be treated as the same unit, and
  - (ii) For a unit that is replaced by a unit at the same source after the date the unit commences operation as defined in subparagraph (B) of this definition, such date shall remain the replaced unit's date of commencement of operation, and the replacement unit shall be treated as a separate unit with a separate date for commencement of operation as defined in subparagraph (A) or (B) of this definition, as appropriate.

“Energy efficiency project” or “EEP” means the installation or implementation at a stationary source of one or more of the measures listed that is not otherwise required by law or regulation and that results in energy savings at a facility located in the State of Connecticut:

- (A) The construction of a new building or addition that exceeds the minimum energy efficiency requirements of the State Building code;
- (B) The installation, replacement or modification of equipment, fixtures or materials;
- (C) The commencement or modification of building or facility operation and maintenance procedures;
- (D) A combined heat and power system; or
- (E) Any other measure approved by the Commissioner in writing.

Projects that do not result in energy savings, such as reductions in labor and load shifting, projects resulting in energy savings for a CAIR NO<sub>x</sub> Ozone Season Unit and mobile source measures are not considered EEPs.

“Energy Efficiency and Renewable Energy Set-Aside Baseline Period” or “EERESA Baseline Period” means either of the two control periods, as approved by the Commissioner, preceding the year in which an EEP, a renewable energy project (REP) or a qualifying other project (QOP), as defined in this section, is first put in use or first becomes operational. The EERESA Baseline Period remains constant when calculating CAIR NO<sub>x</sub> Ozone Season allowance allocations for

such REP, EEP or QOP in any subsequent year.

“EERESA Representative” means a person who aggregates any combination of one or more renewable energy projects, energy efficiency projects or qualifying other projects, to equal at least one whole allowance, or who aggregates two or more years of operation by a single project, to equal at least one whole allowance. An EERESA representative includes, but is not limited to, the following: a common owner of the aggregated projects, an energy service company, an emission trading broker or a state or municipal entity.

“Fossil-fuel-fired” means, with regard to an emission unit that is a CAIR NO<sub>x</sub> Ozone Season unit pursuant to subparagraph (B) of the definition of “CAIR NO<sub>x</sub> Ozone Season unit” in subsection (a) of this section, the combustion of fossil fuel, any derivative of fossil fuel alone, or a combination of fuels, of which fossil fuel:

- (A) Comprises more than fifty percent (50%) of the annual heat input (in Btu) in 1990 or any year thereafter; or
- (B) Is projected to comprise more than fifty percent (50%) of the annual heat input (in Btu), provided that the Commissioner shall consider an emission unit as “fossil-fuel fired” upon the date such emission unit begins combusting fossil fuel.

“Gross energy input” means total fuel-related heat input in Btus per unit of time, based upon the higher heating value of fuel.

“Indirect heat exchanger” means combustion equipment in which the flame or products of combustion are separated from any contact with the principal material in the process by metallic or refractory walls, and that emits exhaust gases only through a stack. Indirect heat exchangers include, but are not limited to, steam boilers, vaporizers, melting pots, heat exchangers, column reboilers, fractioning column feed preheaters, reactor feed preheaters, pyrolysis heaters and fuel-fired reactors.

“Industrial Unit” means a fossil-fuel-fired boiler or indirect heat exchanger with a maximum design heat input of 250 MMBtu/hr or more.

“Nameplate capacity” means, with regard to an emission unit that is a CAIR NO<sub>x</sub> Ozone Season unit pursuant to subparagraph (B) of the definition of “CAIR NO<sub>x</sub> Ozone Season unit” in subsection (a) of this section, the maximum electrical generating output (in MW electrical) that a generator can sustain over a specified period of time when not restricted by seasonal or other deratings as measured in accordance with the United States Department of Energy standards.

“Net electricity output” means the gross electric generation (in MWh) less any of the energy output consumed in the process of generation.

“New Unit” means any fossil-fuel-fired unit that commences operation on or after January 1, 2001 and that serves a generator that generates electricity at a rated output of fifteen (15) megawatts or more, for the period of time commencing with initial operation through operation during the sixth control period or portion thereof following date of initial operation. When operating during the seventh and later control periods, or portion thereof, following the date of initial operation, such a unit is no longer considered a New Unit but is considered, for the

purpose of CAIR NO<sub>x</sub> Ozone Season allowance allocation for all control periods thereafter, a Cogeneration Unit, an Industrial Unit or a Phase II Unit.

“Normal system operation” means all times of operation except periods of startup, shutdown or malfunction; Commissioner-approved stack testing; or intentional sootblowing, fuel switching or sudden load changing.

“Permitting authority” shall mean “Commissioner” as defined in section 22a-174-1 of the Regulations of Connecticut State Agencies.

“Phase I Unit” means a CAIR NO<sub>x</sub> Ozone Season unit that is a fossil-fuel-fired unit that operated at any time prior to November 15, 1990 and that serves a generator with a nameplate capacity of fifteen (15) megawatts or more.

“Phase II Unit” means a fossil-fuel-fired unit that began operating on or after November 15, 1990, that serves a generator that generates electricity at a rated output of fifteen (15) megawatts or more and that is operating in the seventh or later control period following the date of commencement of initial operation. For the purposes of this definition, operation during any portion of a control period qualifies as operation in that control period.

“Proponent” means any person who owns, leases, operates or controls an energy efficiency project, a renewable energy project or a qualifying other project, or an EERESA representative.

“Prospective project” means a REP, EEP or QOP that is not in operation but for which the owner has awarded contracts for installation or purchase of components or begun on-site construction or installation.

“Qualifying other project” or “QOP” means the implementation or installation of a measure at a stationary source that is not otherwise required by law or regulation, that results in thermal or electric energy savings, that is not an EEP or a REP and that is approved by the Commissioner in writing.

“Renewable energy” means energy generated by one or more of the following fuels, energy resources or technologies, and that does not emit NO<sub>x</sub>: solar photovoltaic or solar thermal energy; wind energy; fuel cells, which do not employ a fuel processor that emits NO<sub>x</sub>; ocean thermal, wave or tidal energy; or hydro and geothermal energy.

“Renewable energy project” or “REP” means one or more generation units producing renewable energy, located in the State of Connecticut or directly and solely connected to transmission facilities in the State of Connecticut, exclusive of a generation unit that has been awarded CAIR NO<sub>x</sub> Ozone Season allowances under another program administered by federal or state government.

“State Building Code” means the State Building Code established by section 29-252 of the Connecticut General Statutes.

“State trading budget” means “Connecticut emission budget” as identified in subsection (c) of this section.

“Unit of production” means a manufactured item or raw, intermediate or final material, including steam or other product, measured in discrete units and produced as a result of the consumption of energy in a specific process or by a piece of equipment.

“Useful net thermal energy” means, for a REP generating thermal energy or for use of a combined heat and power system, the energy output of thermal energy used for heating, cooling, industrial processes or other beneficial uses.

**(b) Applicability.**

(1) Except as provided in subdivision (2) of this subsection, this section shall apply to the owner or operator of a CAIR NOx Ozone Season unit.

(2) Notwithstanding subdivision (1) of this subsection, this section shall not apply to the owner or operator of a solid waste incineration unit as described in 40 CFR 96.304(b)(2).

(3) Except as provided in subsection (i) of this section, the requirements of section 22a-174-22b of the Regulations of Connecticut State Agencies shall not apply to the owner or operator of a CAIR NOx Ozone Season unit on and after May 1, 2009.

**(c) Connecticut emission budget.**

(1) The Connecticut emission budget is two thousand six hundred ninety one (2,691) tons of NOx during each control period for each year beginning in 2009.

(2) The Commissioner shall implement the Connecticut emission budget by allocation of NOx allowances as described in subsection (e) of this section.

(3) The Commissioner shall establish the following accounts in the CAIR NATS:

(A) The Connecticut State Account, to hold the Connecticut emission budget for allocation to the compliance accounts of CAIR NOx Ozone Season units; and

(B) The Connecticut Retirement Account, to hold NOx allowances exacted for purposes other than compliance with this section and permanently retired.

**(d) Allocation timing.**

(1) For CAIR NOx Ozone Season units other than New Units, the Commissioner shall allocate CAIR NOx Ozone Season allowances according to the following schedule:

(A) No later than April 30, 2007, determine and notify the Administrator of each CAIR NOx Ozone Season unit's allocation of CAIR NOx Ozone Season allowances for the 2009, 2010 and 2011 control periods;

(B) No later than October 31, 2008, determine and notify the Administrator of each CAIR NOx Ozone Season unit's allocation of CAIR NOx Ozone Season allowances for the 2012 control period; and



- (C) No later than October 31, 2009 and each year thereafter, determine and notify the Administrator of each CAIR NOx Ozone Season unit's allocation of CAIR NOx Ozone Season allowances for the control period in the fourth calendar year after the year in which the notification is to be submitted.
- (2) For New Units, the Commissioner shall allocate CAIR NOx Ozone Season allowances according to the following schedule:
- (A) For operation during the first six control periods or portions thereof following the date of commencement of operation, the Commissioner shall determine and notify the Administrator of each New Unit's allocation of CAIR NOx Ozone Season allowances no later than July 31 of the control period for which the CAIR NOx Ozone Season allowances are allocated; and
- (B) For operation during the seventh and later control periods following the date of commencement of operation, the Commissioner shall determine and notify the Administrator of each former New Unit's allocation of CAIR NOx Ozone Season allowances according to the schedule set forth in subdivision (1) of this subsection.
- (e) **CAIR NO<sub>x</sub> Ozone Season allowance allocations.**
- (1) In applying the provisions of this subsection to a CAIR NOx Ozone Season unit, such unit shall be categorized as a Phase I Unit, a Cogeneration Unit, an Industrial Unit, a New Unit or a Phase II Unit, as applicable.
- (2) For the control period commencing May 1, 2009 and through the 2014 control period, the Commissioner shall allocate among the owners or operators of CAIR NOx Ozone Season units, other than New Units, up to two thousand three hundred fifty-six (2,356) CAIR NOx Ozone Season allowances.
- (3) For the control period commencing May 1, 2015 and each control period thereafter, the Commissioner shall allocate among the owners or operators of CAIR NOx Ozone Season units, other than New Units, up to two thousand four hundred twenty-two (2,422) CAIR NOx Ozone Season allowances.
- (4) For the control period commencing May 1, 2009 and through the 2014 control period, the Commissioner shall allocate among the owners or operators of New Units up to two hundred (200) CAIR NOx Ozone Season allowances.
- (5) For the control period commencing May 1, 2015 and each control period thereafter, the Commissioner shall allocate among the owners or operators of New Units up to one hundred thirty-four (134) CAIR NOx Ozone Season allowances.
- (6) For the control period commencing May 1, 2009 and each control period thereafter, the Commissioner shall allocate up to one hundred thirty-four (134) CAIR NOx Ozone Season allowances to Proponents in accordance with subsection (f) of this section.

(7) By May 1, 2009, for each of the years 2009, 2010, and 2011, the Commissioner, in the following manner and order, shall:

- (A) Allocate to the compliance account of each Cogeneration Unit and Industrial Unit, the number of CAIR NO<sub>x</sub> Ozone Season allowances equal to the product of the following calculation:

$$\frac{(ER \times HI_{AVG})}{2000 \frac{lb}{ton}}$$

Where:

- ER = The lowest of:
- (i) the unit's NO<sub>x</sub> RACT emission rate (in lb/mmBtu of heat input), during the 2005 and 2006 control periods, as required in section 22a-174-22 of the Regulations of Connecticut State Agencies; or
  - (ii) the unit's average permitted NO<sub>x</sub> emission rate (in lb/mmBtu of heat input) during the 2005 and 2006 control periods; or
  - (iii) the average of the unit's actual NO<sub>x</sub> emission rate (in lb/mmBtu of heat input) during the 2000 through 2004 control periods.

HI<sub>AVG</sub> = the unit's actual average heat input (in mmBtu) during the 2005 and 2006 control periods

- (B) Allocate to the compliance account of each Phase I Unit the number of CAIR NO<sub>x</sub> Ozone Season allowances equal to the product of the following equation:

$$\frac{\left(1.5 \frac{lb}{MWh} \times EO_U\right)}{2000 \frac{lb}{ton}}$$

Where:

EO<sub>U</sub> = each Phase I Unit's average net electricity output (in MWh) during the 2005 and 2006 control periods

- (C) Allocate to the compliance account of each Phase II Unit the number of CAIR NO<sub>x</sub> Ozone Season allowances equal to the product of the following equation:

$$(A - A_{ALLOTTED}) \times \left( \frac{EO_U}{EO_{TOTAL}} \right)$$

Where:

- A = 2,356 CAIR NO<sub>x</sub> Ozone Season allowances
- A<sub>ALLOTTED</sub> = the total number of CAIR NO<sub>x</sub> Ozone Season allowances allocated to Industrial Units, Cogeneration Units and Phase I Units in a given year pursuant to subdivisions (7)(A) and (7)(B) of this subsection
- EO<sub>U</sub> = the Phase II Unit's average net electricity output (in MWh) for the 2005 and 2006 control periods
- EO<sub>TOTAL</sub> = the total average net electricity output (in MWh) of all Phase II Units during the 2005 and 2006 control periods

(8) By May 1, 2012 and each year thereafter, the Commissioner, in the following manner and order, shall:

- (A) Allocate to the compliance account of each Cogeneration Unit and Industrial Unit, the number of CAIR NO<sub>x</sub> Ozone Season allowances equal to the product of the following calculation:

$$\frac{(ER \times HI_{AVG})}{2000 \frac{lb}{ton}}$$

Where:

- ER = the lowest of:
- (i) the unit's NO<sub>x</sub> RACT emission rate (in lb/mmBtu of heat input), during the 5<sup>th</sup> and 6<sup>th</sup> control periods preceding the year of allocation, as required in section 22a-174-22 of the Regulations of Connecticut State Agencies; or
  - (ii) the unit's average permitted NO<sub>x</sub> emission rate (in lb/mmBtu of heat input) during the 5<sup>th</sup> and 6<sup>th</sup> control periods preceding the year of allocation; or
  - (iii) the average of the unit's actual NO<sub>x</sub> emission rate (in lb/mmBtu of heat input) during the 2000-2004 control periods.
- HI<sub>AVG</sub> = the unit's actual average heat input (in mmBtu) during the 5<sup>th</sup> and 6<sup>th</sup> control periods preceding the year of allocation

- (B) Allocate to the compliance account of each Phase I Unit and Phase II Unit the number of CAIR NOx Ozone Season allowances equal to the product of the following equation:

$$(A - A_{ALLOCATED}) \times \left( \frac{EO_U}{EO_{TOTAL}} \right)$$

Where:

- A = 2,356 CAIR NOx Ozone Season allowances for 2009-2014;  
2,422 CAIR NOx Ozone Season allowances for 2015 and beyond
- A<sub>ALLOCATED</sub> = the total number of CAIR NOx Ozone Season allowances allocated to Industrial Units and Cogeneration Units pursuant to subdivision (8)(A) of this subsection for the control period
- EO<sub>U</sub> = each Phase I and Phase II Unit's average net electricity output (in MWh) during the 5<sup>th</sup> and 6<sup>th</sup> control periods preceding the year of allocation
- EO<sub>TOTAL</sub> = the total average net electricity output (in MWh) of Phase I and Phase II Units during the 5<sup>th</sup> and 6<sup>th</sup> control periods preceding the year of allocation

- (9) Prior to the allowance transfer deadline of the 2009 control period and each control period thereafter, the Commissioner shall:

- (A) Allocate to the compliance account of each New Unit the number of CAIR NOx Ozone Season allowances equal to the product of the following equation, subject to the limitation in subparagraph (B) of this subdivision:

$$\frac{(ER \times HIR \times HO_{CP})}{2000 \frac{lb}{ton}}$$

Where:

- ER = the lower of:  
(i) 0.15 lb/MMBtu for the years 2009-2014;  
0.125 lb/MMBtu for 2015 and thereafter; or  
(ii) the unit's permitted NOx emission rate (in lb/mmBtu of heat input) during the control period.
- HIR = the lower of:

(i) the unit's maximum design heat input (in mmBtu/hr);

or

(ii) the unit's permitted heat input rate (in mmBtu/hr) during the control period.

$HO_{CP}$  = the number of hours the unit operated during the prior control period, rounded to the nearest whole hour by rounding down for decimals less than 0.5, and rounded up for decimals of 0.5 or greater. If the unit did not operate during the prior control period, the number of hours shall be determined by the Commissioner based on information submitted pursuant to subsection (i)(2) of this section

(B) For 2009-2014:

IF  $\Sigma NUA_{CALCULATED} < 200$ , THEN

$$A_{ALLOCATED-NU} = A_{NU}$$

IF  $\Sigma NUA_{CALCULATED} > 200$ , THEN

$$A_{ALLOCATED-NU} = A_{NU} \times \left( \frac{200}{\Sigma NUA_{CALCULATED}} \right)$$

rounded to the nearest whole allowance, as appropriate.

For 2015 and beyond:

IF  $\Sigma NUA_{CALCULATED} < 134$ , THEN

$$A_{ALLOCATED-NU} = A_{NU}$$

IF  $\Sigma NUA_{CALCULATED} > 134$ , THEN

$$A_{ALLOCATED-NU} = A_{NU} \times \left( \frac{134}{\Sigma NUA_{CALCULATED}} \right)$$

rounded to the nearest whole allowance, as appropriate.

Where:

$\Sigma NUA_{CALCULATED}$  = the total number of CAIR NOx Ozone Season allowances calculated for New Units pursuant to subparagraph (9)(A) of this subsection

$A_{ALLOCATED-NU}$  = the number of CAIR NOx Ozone Season allowances the Commissioner shall allocate to the compliance account of each New Unit

$A_{NU}$  = the number of CAIR NOx Ozone Season allowances calculated for each New Unit pursuant to subparagraph (9)(A) of this subsection

The Commissioner may adjust an allowance allocation under this subparagraph as necessary to not exceed  $\Sigma NUA_{CALCULATED}$ .

- (C) Allocate to the compliance account of each Phase I and Phase II Unit the number of CAIR NOx Ozone Season allowances, if any, equal to the product of the following equation:

For 2009-2014:

$$\left[ (200 - A_{ALLOCATED-NU}) + (134 - A_{ALLOCATED-P}) \times \left( \frac{EO_U}{EO_{TOTAL}} \right) \right]$$

For 2015 and beyond:

$$\left[ (134 - A_{ALLOCATED-NU}) + (134 - A_{ALLOCATED-P}) \times \left( \frac{EO_U}{EO_{TOTAL}} \right) \right]$$

Where:

$A_{ALLOCATED-NU}$  = the number of CAIR NOx Ozone Season allowances allocated to New Units pursuant to subparagraph (9)(A) of this subsection for the current year control period

$A_{ALLOCATED-P}$  = the number of CAIR NOx Ozone Season allowances allocated to Proponents pursuant to subsection (f) of this section for the current year control period

$EO_U$  = each Phase I and Phase II Unit's average net electricity output (in MWh) during the 2005 and 2006 control periods

$EO_{TOTAL}$  = For the years 2009-2011, the total average net electricity output (in MWh) of Phase I and Phase II Units during the 2005 and 2006 control periods. For the year 2012 and each year thereafter, the total average net electricity output (in MWh) of Phase I and Phase II Units during the 5<sup>th</sup> and 6<sup>th</sup> control periods preceding the year of allocation.

**(f) Energy Efficiency and Renewable Energy Set-Aside (EERESA) Allocation.**

(1) Annual Allowance Allocations. For the control period commencing May 1, 2009 and each control period thereafter, the Commissioner shall:

- (A) Allocate to the compliance account of each Proponent of a REP generating electrical energy the number of CAIR NO<sub>x</sub> Ozone Season allowances equal to the amount determined by the following equation, subject to the limitation in subparagraph (H) of this subdivision:

$$\frac{\left( EEG \times 1.5 \frac{lb}{MWh} \right)}{2000 \frac{lb}{ton}}$$

Where:

EEG = the net electrical energy generated by the REP (in MWh) during the control period

- (B) Allocate to the compliance account of each Proponent of a REP generating useful net thermal energy the number of CAIR NO<sub>x</sub> Ozone Season allowances equal to the amount determined by the following equation, subject to the limitation in subparagraph (H) of this subdivision:

$$\frac{\left( TEG \times 0.44 \frac{lb}{mmBtu} \right)}{2000 \frac{lb}{ton}}$$

Where:

TEG = the useful net thermal energy (in mmBtu) generated by the REP during the control period

- (C) Allocate to the compliance account of each Proponent of an EEP saving electrical energy the number of CAIR NO<sub>x</sub> Ozone Season allowances equal to the amount determined by the following calculation, subject to the limitation in subparagraph (H) of this subdivision:

$$\frac{\left( EES \times 1.5 \frac{lb}{MWh} \right)}{2000 \frac{lb}{ton}}$$

Where:

EES = the amount of electrical energy saved by the EEP (in MWh) during the control period, calculated according to subparagraphs (C)(i) and (C)(ii) of this subdivision

- (i) Except as provided in subparagraph (C)(ii) of this subdivision, the amount of electrical energy saved shall be calculated by comparing the amount of electrical energy consumed during the control period in the calendar year preceding the year in which the application is submitted to the amount of electrical energy consumed during the EERESA Baseline Period. If monthly data for energy consumed is not available, then energy savings shall be calculated by comparing the energy consumed during the calendar year preceding the year in which the application is submitted to the amount of electrical energy consumed during the calendar year in which the EERESA Baseline Period occurred, multiplied by five-twelfths, and
- (ii) For the construction of a new building or addition that exceeds the energy efficiency requirements of the State Building Code, the amount of electrical energy saved shall be calculated by comparing the amount of electrical energy consumed during the first full control period immediately preceding the year the application is submitted to the amount of electrical energy that would have been consumed at the same occupancy level during the control period if the building or addition had been constructed according to the minimum energy efficiency requirements of the State Building Code. If monthly data for energy consumed is not available then energy savings shall be calculated by comparing the energy consumed during the calendar year preceding the year the application is submitted to the amount of electrical energy that would have been consumed at the same occupancy level during the calendar year if the building or addition had been constructed according to the minimum energy efficiency requirements of the State Building Code, multiplied by five-twelfths;

(D) Allocate to the compliance account of each Proponent of an EEP saving thermal energy the number of CAIR NOx Ozone Season allowances equal to the amount determined by the following equation, subject to the limitation in subparagraph (H) of this subdivision:

$$\frac{\left( TES \times 0.44 \frac{lb}{mmBtu} \right)}{2000 \frac{lb}{ton}}$$

Where:

TES = the amount of thermal energy saved by the EEP (in mmBtu) during the control period calculated according to subparagraphs (D)(i) and (D)(ii) of this subdivision



- (i) Except as provided in subparagraph (D)(ii) of this subdivision, the amount of thermal energy saved shall be calculated by comparing the amount of thermal energy consumed during the control period in the calendar year preceding the year in which the application is submitted to the amount of thermal energy consumed during the EERESA Baseline Period. If monthly data for energy consumed is not available, then energy savings shall be calculated by comparing the energy consumed during the calendar year preceding the year in which the application is submitted to the amount of thermal energy consumed during the calendar year in which the EERESA Baseline Period occurred, multiplied by five-twelfths, and
  - (ii) For the construction of a new building or addition that exceeds the energy efficiency requirements of the State Building Code, the amount of thermal energy saved shall be calculated by comparing the amount of thermal energy consumed during the first full control period immediately preceding the year the application is submitted to the amount of thermal energy that would have been consumed at the same occupancy level during the control period if the building or addition had been constructed according to the minimum energy efficiency requirements of the State Building Code. If monthly data for energy consumed is not available then energy savings shall be calculated by comparing the energy consumed during the calendar year immediately preceding the year the application is submitted to the amount of thermal energy that would have been consumed at the same occupancy level during the calendar year if the building or addition had been constructed according the minimum energy efficiency requirements of the State Building Code, multiplied by five-twelfths;
- (E) Allocate to the compliance account of each Proponent of an EEP saving thermal or mechanical energy in a manufacturing process where energy consumption is measured on a unit of production basis, the number of CAIR NOx Ozone Season allowances equal to the amount determined by the following equation, subject to the limitation in subparagraph (H) of this subdivision:

$$\frac{\left(\frac{EC_1}{PP_1} - \frac{EC_2}{PP_2}\right) \times PP_2 \times NE_2 \times \left(\frac{NE_1}{NE_2}\right)}{2000 \frac{lb}{ton}}$$

Where:

EC<sub>1</sub> = Energy consumed during the EERESA Baseline Period in mmBtu. If monthly data is not available for the control period, then EC<sub>1</sub> = the amount of energy consumed during any one of the three calendar years before the year in which the EEP was first put in use or first became operational, multiplied by five-twelfths

$PP_1$  = Units of product produced per EERESA Baseline Period. If monthly data is not available for the control period, then  $PP_1$  = the units of product produced during any one of the three calendar years before the year in which the EEP was first put in use or first became operational, multiplied by five-twelfths

$NE_1$  = NOx emitted during the consumption of energy, measured in pounds per mmBtu heat input during the EERESA Baseline Period. If monthly data is not available for the control period, then  $NE_1$  = NOx emitted during any one of the three calendar years before the year in which the EEP was first put in use or first became operational, multiplied by five-twelfths

$EC_2$  = Energy consumed during the control period in the year before the calendar year in which the application is submitted. If monthly data is not available for the control period, then  $EC_2$  = energy consumed during the calendar year before the year in which the application is submitted, multiplied by five-twelfths

$PP_2$  = Units of product produced during the control period in the year before the calendar year in which the application is submitted. If monthly data is not available for the control period then  $PP_2$  = units of product produced during the calendar year before the year in which the application is submitted, multiplied by five-twelfths

$NE_2$  = NOx emitted during the consumption of energy, measured in pounds per mmBtu heat input during the control period in the year before the calendar year in which the application is submitted. If monthly data is not available for the control period then  $NE_2$  = NOx emitted during the calendar year before the year in which the application is submitted, multiplied by five-twelfths

- (F) Allocate to the compliance account of each Proponent of a combined heat and power system with actual energy efficiency equal to or greater than 60%, as determined according to the equation in subparagraph (F)(i) of this subdivision, the number of CAIR NOx Ozone Season allowances equal to the amount determined by the equation in subparagraph (F)(ii) of this subsection, subject to the limitation in subparagraph (H) of this subdivision:

$$(i) \quad \text{Eff}\% = \frac{(NEO + UTO)}{GEI}$$

Where:

- Eff% = Actual energy efficiency
- NEO = Net electricity output of the system converted to British thermal units, (Btus) per unit of time
- UTO = Net useful thermal energy output, in Btus per unit of time
- GEI = Gross energy input, and

(ii) 
$$\frac{NOx_{CONV} - NOx_{CHP}}{2000 \frac{lb}{ton}}$$

Where:

$$NOx_{CONV} = \frac{\left[ \frac{NEE \times 3412 \frac{Btu}{kWh}}{\left( \frac{0.34 + NUTE}{0.8} \right)} \right]}{1,000,000 \frac{Btu}{mmBtu} \times 0.15 \frac{lb}{mmBtu}}$$

$$NOx_{CHP} = \frac{HI}{\left( 1,000,000 \frac{Btu}{mmBtu} \times NOx_{RATE} \right)}$$

NEE = the number of kilowatt-hours of net electrical energy generated by the system during the EERESA Baseline Period. If monthly data is not available for the EERESA Baseline Period, then the number of kilowatt-hours of net electrical energy generated by the system during any one of the three calendar years before the year in which the system first generated energy, multiplied by five-twelfths

NUTE = the number of British thermal units (Btu) of net useful thermal energy used by the system for space, water or industrial process heat during a control period. If monthly data is not available for the control period, then NUTE = the number of British thermal units (Btu) of net useful thermal energy used by the system for space, water or industrial process heat during a calendar year, multiplied by five-twelfths

HI = the heat input of fuel used by the system to produce electrical or thermal energy during the EERESA Baseline Period. If monthly data is not available for the EERESA Baseline Period, then HI = the heat input of fuel used by the system to produce electrical or thermal energy during any one of the three calendar years before the year during which the system first generated energy, multiplied by five-twelfths

NO<sub>x</sub>RATE = NO<sub>x</sub> emitted in normal system operation by the project (lbs NO<sub>x</sub>/mmBtu)

(G) Allocate to the compliance account of each Proponent of a QOP the number of CAIR NO<sub>x</sub> Ozone Season allowances equal to an amount determined under subparagraphs (A) through (F), inclusive, of this subdivision, as may be applicable, or an amount determined by the Commissioner, subject to the limitation in subparagraph (H) of this subdivision; and

(H) IF  $\Sigma PA_{CALCULATED} \leq 134$ , THEN

$$A_{ALLOCATED-P} = A_P$$

IF  $\Sigma PA_{CALCULATED} > 134$ , THEN

$$A_{ALLOCATED-P} = A_P \times \left( \frac{134}{\sum PA_{CALCULATED}} \right)$$

Where:

$\Sigma PA_{CALCULATED}$  = the total number of CAIR NO<sub>x</sub> Ozone Season allowances calculated for Proponents pursuant to subparagraphs (A) through (G), as applicable, of this subdivision

$A_{ALLOCATED-P}$  = the number of CAIR NO<sub>x</sub> Ozone Season allowances the Commissioner shall allocate to the compliance account of each Proponent

$A_P$  = the number of CAIR NO<sub>x</sub> Ozone Season allowances calculated for each Proponent pursuant to subparagraphs (A) through (G), as applicable, of this subdivision

(2) Only REPs that were built and began generating energy and EEPs and QOPs that were built and in use, or installed and operational, on or after January 1, 2001 are eligible to receive CAIR NO<sub>x</sub> Ozone Season allowances.

(3) Each Proponent shall apply to the Commissioner to receive an allocation of CAIR NO<sub>x</sub> Ozone Season allowances from the EERESA according to the following procedures:

- (A) Prior to submitting an application to receive an allocation of CAIR NO<sub>x</sub> Ozone Season allowances from the EERESA, each Proponent shall establish a general account in accordance with 40 CFR 96.351;
- (B) All applications shall be submitted on the Department's Energy Efficiency and Renewable Energy Set-Aside Allowance Application form and shall include the following information:
  - (i) A description of the project that includes the installation date and the estimated lifetime, a calculation of the amount of energy saved or generated and an explanation of the electricity monitoring and verification method,
  - (ii) If the project requires approval by the Commissioner as an EEP or a QOP, a request for such approval,
  - (iii) Any additional information that the Commissioner may request, and
  - (iv) A certification prepared and signed as required by section 22a-174-2a(a)(5) of the Regulations of Connecticut State Agencies;
- (C) In 2009, and each year thereafter, Proponents shall submit applications to the Department by February 1 of each year. The designated year in which the allowances are allocated will correspond to the calendar year in which the application is submitted. The allocation will be based on the energy saved or generated in the calendar year or, for projects aggregated over several years of operation, years preceding the year in which the application is submitted;
- (D) A Proponent may request an allocation of allowances from the EERESA for a maximum of five (5) years at a time. A separate verification of operation and calculation of energy generation or energy savings shall be submitted annually for each year during which a REP generates energy or an EEP or a QOP saves energy;
- (E) Only one Proponent may submit an application to be allocated allowances from the EERESA for a single REP, EEP or QOP in a single calendar year. If more than one Proponent submits an application for the same project for the same calendar year, the Commissioner, at his or her discretion, may refuse to accept such applications; and
- (F) A Proponent shall not submit an application under this subsection for energy generation or energy savings equivalent to less than one whole allowance. An EERESA Representative may submit an application that:

- (i) Aggregates any combination of one or more REPs, EEPs or QOPs that individually save or generate energy in a single calendar year equivalent to less than one allowance but for which the energy savings or generation is equivalent to a minimum of one whole allowance when aggregated,
  - (ii) Aggregates two or more years of operation by a single REP, EEP or QOP that saves or generates energy equivalent to less than one allowance in a single year but for which the energy savings or generation is equivalent to a minimum of one whole allowance when aggregated, and
  - (iii) Aggregates two or more years of operation by any combination of one or more REPs, EEPs or QOPs that save or generate energy in a single calendar year equivalent to less than one whole allowance when aggregated but for which the energy savings or generation is equivalent to a minimum of one whole allowance when aggregated over two or more years of operation.
- (4) Each Proponent shall measure the amount of energy saved or generated by each project according to subparagraphs (A) through (C) of this subdivision or subparagraph (D) of this subdivision, as follows:
- (A) Adhering to the requirements of the International Performance Measurement and Verification Protocol, March 2002, DOE/GO-102002-1554 (<http://www.ipmvp.org>) or the U.S. Environmental Protection Agency's Conservation Verification Protocol; and
  - (B) Adhering to the measurement and verification provisions of NEPOOL's Operating Procedure 18 "Metering and Telemetry" or other provisions acceptable to the Commissioner; and
  - (C) Making the normalization adjustments for energy savings in accordance with the International Performance Measurement and Verification Protocol, March 2002, DOE/GO-102002-1554; or
  - (D) Using any applicable measurement and verification protocols submitted to and approved by the Commissioner.
- (5) Nothing in this subsection shall preclude the Commissioner from reducing the number of allowances allocated to a REP, EEP or QOP to account for:
- (A) Any NOx emissions associated with the operation of a REP, EEP or QOP;
  - (B) Uncertainty in the measurement or verification of the actual emissions reductions or energy savings achieved by a project; and
  - (C) Any other circumstances identified by the Commissioner in writing and provided to the Proponent.

(6) The Proponent of a prospective project may apply to the Commissioner to receive an estimate of the number of allowances that the Commissioner may award from the EERESA to the prospective project pursuant to the requirements of this subsection after the prospective project has operated for one ozone season. The following considerations shall apply to such a prospective project:

- (A) An application made pursuant to this subdivision shall be made on a form prescribed by the Commissioner and shall include the following information:
  - (i) The Proponent's full name and business address,
  - (ii) The name and telephone number for a person to contact regarding the application,
  - (iii) A description of the project that includes the estimated completion date, the calculation of the electricity anticipated to be saved or supplied and an explanation of the planned electricity monitoring and verification method,
  - (iv) Any other information requested by the permitting authority, and
  - (v) A certification prepared and signed as required by section 22a-174-2a(a)(5) of the Regulations of Connecticut State Agencies;
- (B) After completing the construction or installation of a prospective project for which the Commissioner has made an estimate of allowances that may be allocated from the EERESA pursuant to this subdivision and after operating the project for one ozone season, the Proponent may apply to receive an actual allocation of allowances from the EERESA according to the requirements of subdivision (3) of this section; and
- (C) A determination by the Commissioner concerning an application submitted pursuant to this subdivision is not a binding commitment to allocate the estimated number of allowances from the EERESA to the Proponent after such project initiates operation.

(7) In 2012, the Commissioner will conduct a review of the Energy Efficiency and Renewable Energy Set-Aside Allocation program, including, but not limited to, the following factors:

- (A) Success in promoting energy efficiency;
- (B) Impacts on CAIR NO<sub>x</sub> Ozone Season allowance price and availability; and
- (C) Appropriateness of the size of the EERESA.

**(g) CAIR NO<sub>x</sub> Ozone Season allowance use.**

(1) A CAIR NO<sub>x</sub> Ozone Season allowance reserved, allocated, banked or traded is reserved, allocated, banked or traded subject to all applicable legal requirements and limitations, including,

but not limited to, the requirements of this section and the provisions of sections 22a-1, 22a-5, 22a-6, 22a-174 and 22a-174c of the Connecticut General Statutes.

(2) Except as provided in subdivision (3) of this subsection and subsection (i) of this section, CAIR NO<sub>x</sub> Ozone Season allowances cannot be used to meet or exceed the limitations of any permit, order or other applicable requirement.

(3) The Commissioner may allow the owner or operator of a CAIR NO<sub>x</sub> Ozone Season unit to use CAIR NO<sub>x</sub> Ozone Season allowances beyond those otherwise required for compliance with this section to comply with section 22a-174-22(e) of the Regulations of Connecticut State Agencies pursuant to the provisions of section 22a-174-22(j) of the Regulations of Connecticut State Agencies.

(4) Emission offsets required for new or modified major stationary sources of NO<sub>x</sub> must be obtained in accordance with section 22a-174-3a of the Regulations of Connecticut State Agencies and are subject to the offset requirements of Section 173 of the Act. CAIR NO<sub>x</sub> Ozone Season allowances may not be used as offsets, unless the Commissioner permanently adjusts the state trading budget commensurate with the number of unused NO<sub>x</sub> allowances approved for use as offsets and the owner or operator of a CAIR NO<sub>x</sub> Ozone Season unit meets the following conditions:

- (A) Reduces the emissions of such CAIR NO<sub>x</sub> Ozone Season unit such that not all CAIR NO<sub>x</sub> Ozone Season allowances allocated to that unit are used; and
- (B) Satisfies the requirements of section 22a-174-3a(l)(5) of the Regulations of Connecticut State Agencies.

(5) If the owner or operator of a CAIR NO<sub>x</sub> Ozone Season unit transfers emission reductions as offsets to sources of NO<sub>x</sub> not participating in a CAIR NO<sub>x</sub> Ozone Season allowance trading program administered by the Administrator under 40 CFR 51.123, such owner or operator shall surrender the CAIR NO<sub>x</sub> Ozone Season allowances representing the emissions reductions in an amount equivalent to the emission reductions transferred off-budget.

(h) **Reserved.**

(i) **Allowance tracking and banking; monitoring; recordkeeping and reporting; and other requirements.**

(1) Each owner or operator and each designated representative of a CAIR NO<sub>x</sub> Ozone Season unit that is subject to this section shall comply with each applicable requirement set forth in Table 22c-1 and incorporated by reference herein, as follows:

- (A) Terms used in the incorporated sections of the CFR shall be defined as in 40 CFR 96.302;



- (B) To the extent that the text referenced in Table 22c-1 of this section refers to the Hg Budget Trading Program, CAIR SO<sub>2</sub> trading, CAIR NO<sub>x</sub> Annual Trading Program, 40 CFR 96 subpart III and CAIR NO<sub>x</sub> Ozone Season Opt-in Unit, such references are not incorporated by reference;
  - (C) To the extent the incorporated federal regulations refer to CAIR NO<sub>x</sub> Ozone Season Allowance Allocations, Subpart EEEE and 40 CFR 96.340-42, such references shall be replaced with subsections (c), (d), (e) or (f) of this section, as appropriate; and
  - (D) To the extent the incorporated federal regulations refer to 40 CFR 96.304, such references shall be replaced with subsection (b) of this section.
- (2) Additional reporting requirements. Each owner and operator of a CAIR NO<sub>x</sub> Ozone Season unit shall report the information identified in this subdivision:
- (A) By October 31 of each year, the owner or operator of each CAIR NO<sub>x</sub> Ozone Season unit shall report to the Commissioner the metered net electric output (in MWh) and useful steam output (in mmBtu) for the facility at which the unit is located for that year's control period. If data for steam output is not available, the owner or operator may report heat input providing useful steam output as a surrogate for useful steam output; and
  - (B) The owner or operator of each New Unit operating in the first control period following the date of commencement of operation shall by July 1 of that first control period report to the Commissioner an estimate of the total number of hours of operation for the control period.
- (3) Monitoring and related reporting requirements. The requirements of 40 CFR 96.374(d)(2)(ii) shall only apply to those owners and operators of CAIR NO<sub>x</sub> Ozone Season units that are not subject to an Acid Rain emissions limitation and are not monitoring NO<sub>x</sub> emissions using a CEM.
- (4) Additional excess emissions requirements. For the 2009 compliance period, the Administrator shall deduct, for excess emissions in the 2008 control period determined according to section 22a-174-22b of the Regulations of Connecticut State Agencies, CAIR NO<sub>x</sub> Ozone Season allowances allocated for the 2009 control period in the manner specified in 40 CFR 96.306(d) for excess emissions in the 2009 compliance period and beyond.
- (5) Copies of the relevant sections of 40 CFR 96 incorporated by reference in this section are available by contacting:

Connecticut Department of Environmental Protection  
Bureau of Air Management  
Planning and Standards Division  
79 Elm Street  
Hartford, Connecticut 06106  
(860) 424-3027

<b>Table 22c-1</b>	
<b>40 Code of Federal Regulations Part 96</b>	
<b>Provisions Incorporated by Reference as of April 28, 2006</b>	
<b>Subpart AAAA-CAIR NO<sub>x</sub> Ozone Season Trading Program General Provisions</b>	
Section 96.302	Definitions.
Section 96.303	Measurements, abbreviations, and acronyms.
Section 96.305	Retired unit exemption.
Section 96.306	Standard requirements.
Section 96.307	Computation of time.
Section 96.308	Appeal procedures.
<b>Subpart BBBB-CAIR Designated Representative for CAIR NO<sub>x</sub> Ozone Season Sources</b>	
Section 96.310	Authorization and responsibilities of CAIR designated representative.
Section 96.311	Alternate CAIR designated representative.
Section 96.312	Changing CAIR designated representative and alternate CAIR designated representative; changes in owners and operators.
Section 96.313	Certificate of representation.
Section 96.314	Objections concerning CAIR designated representative.
Section 96.315	Delegation by CAIR designated representative and alternate CAIR designated representative.
<b>Subpart CCCC-Permits</b>	
Section 96.320	General CAIR NO <sub>x</sub> Ozone Season Trading Program permit requirements.
Section 96.321	Submission of CAIR permit applications.
Section 96.322	Information requirements for CAIR permit applications.
Section 96.323	CAIR permit contents and term.
Section 96.324	CAIR permit revisions.
<b>Subpart FFFF-CAIR NO<sub>x</sub> Ozone Season Allowance Tracking System</b>	
Section 96.351	Establishment of accounts.
Section 96.352	Responsibilities of CAIR authorized account representative.
Section 96.353	Recordation of CAIR NO <sub>x</sub> Ozone Season allowance allocations.
Section 96.354	Compliance with CAIR NO <sub>x</sub> emissions limitation.
Section 96.355	Banking.
Section 96.356	Account error.
Section 96.357	Closing of general accounts.
<b>Subpart GGGG-CAIR NO<sub>x</sub> Ozone Season Allowance Transfers</b>	
Section 96.360	Submission of CAIR NO <sub>x</sub> Ozone Season allowance transfers.
Section 96.361	EPA recordation.
Section 96.362	Notification.
<b>Subpart HHHH-Monitoring and Reporting</b>	
Section 96.370	General requirements.
Section 96.371	Initial certification and recertification procedures.
Section 96.372	Out of control periods.
Section 96.373	Notifications.
Section 96.374 (Except as provided in subsection	Recordkeeping and reporting.

(i)(3) of this section	
Section 96.375	Petitions.

**Statement of Purpose:** To reduce the emissions of nitrogen oxides (NO<sub>x</sub>) from large stationary sources during the period of May 1 through September 30 by means of a market-based, cap-and-trade system, consistent with the federal Clean Air Interstate Rule NO<sub>x</sub> Ozone Season Trading Program.



Attachment 3

**Final Text of Regulations**



**Section 1.** As of May 1, 2009, Section 22a-174-22a of the Regulations of Connecticut State Agencies is repealed.

**Sec. 2.** As of May 1, 2010, Section 22a-174-22b of the Regulations of Connecticut State Agencies is repealed.

**Sec. 3.** The Regulations of Connecticut State Agencies are amended by adding new section 22a-174-22c as follows:

(NEW)

**Sec. 22a-174-22c. The Clean Air Interstate Rule (CAIR) Nitrogen Oxides (NO<sub>x</sub>) Ozone Season Trading Program**

(a) **Definitions.** For the purposes of this section, the following definitions apply, provided that any term related to the administration of this section that is not defined in this subsection shall be as defined or described in 40 CFR 96 subpart AAAA and any remaining terms not defined shall be as defined in section 22a-174-1 of the Regulations of Connecticut State Agencies:

- (1) "CAIR NO<sub>x</sub> Ozone Season unit" means a unit that:
  - (A) Is a "CAIR NO<sub>x</sub> Ozone Season unit" under 40 CFR 96.304; or
  - (B) Satisfies the criteria in one of the following subparagraphs:
    - (i) Is a fossil-fuel-fired emission unit that operated at any time during the period from May through September 1990 and that serves a generator with a nameplate capacity of fifteen (15) megawatts or more,
    - (ii) Is a fossil-fuel-fired emission unit that serves a generator that generates electricity at a rated output of fifteen (15) megawatts or more by employing "cogeneration technology," as defined in section 16-1(a)(21) of the Connecticut General Statutes,
    - (iii) Is a fossil-fuel-fired boiler or indirect heat exchanger with a maximum design heat input of 250 MMBtu/hr or more, or
    - (iv) Is a fossil-fuel-fired emission unit that began operating after September 30, 1990 and that serves a generator that generates electricity at a rated output of fifteen (15) megawatts or more.
- (2) "CAIR NATS" means "CAIR NO<sub>x</sub> Ozone Season Allowance Tracking System" as defined in 40 CFR 96.302.
- (3) "Coal-fired" means combusting any amount of coal or coal-derived fuel, alone or in combination with any amount of any other fuel, during any year.

- (4) "Cogeneration Unit" means, solely for purposes of subsection (e) of this section, a stationary, fossil-fuel-fired emission unit that serves a generator that generates electricity at a rated output of fifteen (15) megawatts or more by employing "cogeneration technology" as defined in section 16-1(a)(21) of the Connecticut General Statutes.
- (5) "Combined heat and power system" or "CHP system" means a generation unit that sequentially produces both electric power and thermal energy from a single source.
- (6) "Commence commercial operation" means, with regard to a unit:
- (A) To have begun to produce steam, gas, or other heated medium used to generate electricity for sale or use, including test generation, except as provided in 40 CFR 96.305.
- (i) For a unit that is a CAIR NO<sub>x</sub> Ozone Season unit on the later of November 15, 1990 or the date the unit commences commercial operation as defined in subparagraph (A) of this definition and that subsequently undergoes a physical change (other than replacement of the unit by a unit at the same source), such date shall remain the date of commencement of commercial operation of the unit, which shall continue to be treated as the same unit.
- (ii) For a unit that is a CAIR NO<sub>x</sub> Ozone Season unit on the later of November 15, 1990 or the date the unit commences commercial operation as defined in subparagraph (A) of this definition and that is subsequently replaced by a unit at the same source (e.g., repowered), such date shall remain the replaced unit's date of commencement of commercial operation, and the replacement unit shall be treated as a separate unit with a separate date for commencement of commercial operation as defined in subparagraph (A) or (B) of this definition as appropriate.
- (B) Notwithstanding subparagraph (A) of this definition and except as provided in 40 CFR 96.305, for a unit that is not a CAIR NO<sub>x</sub> Ozone Season unit on the later of November 15, 1990 or the date the unit commences commercial operation as defined in subparagraph (A) of this definition, the unit's date for commencement of commercial operation shall be the date on which the unit becomes a CAIR NO<sub>x</sub> Ozone Season unit.
- (i) For a unit with a date for commencement of commercial operation as defined in subparagraph (B) of this definition and that subsequently undergoes a physical change (other than replacement of the unit by a unit at the same source), such date shall remain the date of commencement of commercial operation of the unit, which shall continue to be treated as the same unit.
- (ii) For a unit with a date for commencement of commercial operation as defined in subparagraph (B) of this definition and that is subsequently replaced by a unit at the same source (e.g., repowered), such date shall remain the replaced unit's date of commencement of commercial



operation, and the replacement unit shall be treated as a separate unit with a separate date for commencement of commercial operation as defined in subparagraph (A) or (B) of this definition as appropriate.

- (C) Notwithstanding subparagraphs (A) and (B) of this definition, for a unit not serving a generator producing electricity for sale, the unit's date of commencement of operation shall also be the unit's date of commencement of commercial operation.
- (7) "Commence operation" means:
- (A) To have begun any mechanical, chemical, or electronic process, including, with regard to a unit, start-up of a unit's combustion chamber, provided that:
- (i) For a unit that undergoes a physical change other than replacement of the unit by a unit at the same source after the date the unit commences operation as defined in subparagraph (A) of this definition, such date shall remain the date of commencement of operation of the unit, which shall continue to be treated as the same unit, and
- (ii) For a unit that is replaced by a unit at the same source after the date the unit commences operation as defined in subparagraph (A) of this definition, such date shall remain the replaced unit's date of commencement of operation, and the replacement unit shall be treated as a separate unit with a separate date for commencement of operation as defined in subparagraphs (A)(i) or (A)(ii) of this definition, as appropriate.
- (B) Notwithstanding subparagraph (A) of this definition, and solely for purposes of 40 CFR 96, subpart HHHH, for a unit that is not a CAIR NO<sub>x</sub> Ozone Season unit on the later of November 15, 1990 or the date the unit commences operation as defined in subparagraph (A) of this definition and that subsequently becomes a CAIR NO<sub>x</sub> Ozone Season unit, the unit's date for commencement of operation shall be the date on which the unit becomes a CAIR NO<sub>x</sub> Ozone Season unit provided that:
- (i) For a unit that subsequently undergoes a physical change other than replacement of the unit by a unit at the same source after the date the unit commences operation as defined in subparagraph (B) of this definition, such date shall remain the date of commencement of operation of the unit, which shall continue to be treated as the same unit, and
- (ii) For a unit that is replaced by a unit at the same source after the date the unit commences operation as defined in subparagraph (B) of this definition, such date shall remain the replaced unit's date of commencement of operation, and the replacement unit shall be treated as a separate unit with a separate date for commencement of operation as defined in subparagraph (A) or (B) of this definition, as appropriate.
- (8) "Energy efficiency project" or "EEP" means the installation or implementation at a stationary source of one or more of the measures listed in subparagraphs (A) through (E) of this

definition that is not otherwise required by law or regulation and that results in energy savings at a facility located in the State of Connecticut:

- (A) The construction of a new building or addition that exceeds the minimum energy efficiency requirements of the State Building code;
- (B) The installation, replacement or modification of equipment, fixtures or materials;
- (C) The commencement or modification of building or facility operation and maintenance procedures;
- (D) A combined heat and power system; or
- (E) Any other measure approved by the Commissioner in writing.

Projects that do not result in energy savings, such as reductions in labor and load shifting, projects resulting in energy savings for a CAIR NO<sub>x</sub> Ozone Season unit and mobile source measures are not considered EEPs.

(9) “Energy Efficiency and Renewable Energy Set-Aside Baseline Period” or “EERESA Baseline Period” means either of the two control periods, as approved by the Commissioner, preceding the year in which an EEP, a renewable energy project (REP) or a qualifying other project (QOP), as defined in this section, is first put in use or first becomes operational. The EERESA Baseline Period remains constant when calculating CAIR NO<sub>x</sub> Ozone Season allowance allocations for such REP, EEP or QOP in any subsequent year.

(10) “EERESA Representative” means a person who aggregates any combination of one or more renewable energy projects, energy efficiency projects or qualifying other projects, to equal at least one whole allowance, or who aggregates two or more years of operation by a single project, to equal at least one whole allowance. An EERESA representative includes, but is not limited to, the following: a common owner of the aggregated projects, an energy service company, an emission trading broker or a state or municipal entity.

(11) “Fossil-fuel-fired” means:

- (A) With regard to a unit, combusting any amount of fossil fuel in any calendar year; or
- (B) Solely for purposes of applying subparagraph (B) of the definition of “CAIR NO<sub>x</sub> Ozone Season unit” in subsection (a) of this section, the combustion of fossil fuel, any derivative of fossil fuel alone, or a combination of fuels, of which fossil fuel:
  - (i) Comprises more than fifty percent (50%) of the annual heat input (in Btu) in 1990 or any year thereafter; or
  - (ii) Is projected to comprise more than fifty percent (50%) of the annual heat input (in Btu), provided that the Commissioner shall consider an emission unit as “fossil-fuel fired” upon the date such emission unit begins combusting fossil fuel.

- (12) "Gross energy input" means total fuel-related heat input in Btus per unit of time, based upon the higher heating value of fuel.
- (13) "Indirect heat exchanger" means combustion equipment in which the flame or products of combustion are separated from any contact with the principal material in the process by metallic or refractory walls, and that emits exhaust gases only through a stack. Indirect heat exchangers include, but are not limited to, steam boilers, vaporizers, melting pots, heat exchangers, column reboilers, fractioning column feed preheaters, reactor feed preheaters, pyrolysis heaters and fuel-fired reactors.
- (14) "Industrial Unit" means a fossil-fuel-fired boiler or indirect heat exchanger with a maximum design heat input of 250 MMBtu/hr or more.
- (15) "Nameplate capacity" means, solely for purposes of applying subparagraph (B) of the definition of "CAIR NO<sub>x</sub> Ozone Season unit" in subsection (a) of this section, the maximum electrical generating output (in MW electrical) that a generator can sustain over a specified period of time when not restricted by seasonal or other deratings as measured in accordance with the United States Department of Energy standards.
- (16) "Net electricity output" means the gross electric generation (in MWh) less any of the energy output consumed in the process of generation.
- (17) "New Unit" means any fossil-fuel-fired unit that commences operation on or after January 1, 2006 and that serves a generator that generates electricity at a rated output of fifteen (15) megawatts or more.
- (18) "Normal system operation" means all times of operation except periods of startup, shutdown or malfunction; Commissioner-approved stack testing; or intentional sootblowing, fuel switching or sudden load changing.
- (19) "Permitting authority" shall mean "Commissioner" as defined in section 22a-174-1 of the Regulations of Connecticut State Agencies, except for purposes of the definitions of "Allocate or allocation" and "CAIR NO<sub>x</sub> Ozone Season allowance" in 40 CFR 96.302.
- (20) "Phase I Unit" means a CAIR NO<sub>x</sub> Ozone Season unit that is a fossil-fuel-fired unit that operated at any time prior to November 15, 1990 and that serves a generator with a nameplate capacity of fifteen (15) megawatts or more.
- (21) "Phase II Unit" means a fossil-fuel-fired unit that began operating on or after November 15, 1990, that serves a generator that generates electricity at a rated output of fifteen (15) megawatts or more.
- (22) "Proponent" means any person who owns, leases, operates or controls an energy efficiency project, a renewable energy project or a qualifying other project, or an EERESA representative.
- (23) "Prospective project" means a REP, EEP or QOP that is not in operation but for which the owner has awarded contracts for installation or purchase of components or begun on-site construction or installation.

(24) "Qualifying other project" or "QOP" means the implementation or installation of a measure at a stationary source that is not otherwise required by law or regulation, that results in thermal or electric energy savings, that is not an EEP or a REP and that is approved by the Commissioner in writing.

(25) "Reciprocating grate waste tire fired Unit" means an emissions unit combusting a single item waste stream of tires that began operating on or after November 15, 1990, that serves a generator that generates electricity at a rated output of fifteen (15) megawatts or more.

(26) "Renewable energy" means energy generated by one or more of the following fuels, energy resources or technologies, and that does not emit NO<sub>x</sub>: solar photovoltaic or solar thermal energy; wind energy; fuel cells, which do not employ a fuel processor that emits NO<sub>x</sub>; ocean thermal, wave or tidal energy; or hydro and geothermal energy.

(27) "Renewable energy project" or "REP" means one or more generation units producing renewable energy, located in the State of Connecticut or directly and solely connected to transmission facilities in the State of Connecticut, exclusive of a generation unit that has been awarded CAIR NO<sub>x</sub> Ozone Season allowances under another program administered by federal or state government.

(28) "State Building Code" means the State Building Code established by section 29-252 of the Connecticut General Statutes.

(29) "State trading budget" means "Connecticut emission budget" as identified in subsection (c) of this section.

(30) "Unit of production" means a manufactured item or raw, intermediate or final material, including steam or other product, measured in discrete units and produced as a result of the consumption of energy in a specific process or by a piece of equipment.

(31) "Useful net thermal energy" means, for a REP generating thermal energy or for use of a CHP system, the energy output of thermal energy used for heating, cooling, industrial processes or other beneficial uses.

**(b) Applicability.**

(1) This section shall apply to the owner or operator of a CAIR NO<sub>x</sub> Ozone Season unit.

(2) Except as provided in subsection (i)(4) of this section, the requirements of section 22a-174-22b of the Regulations of Connecticut State Agencies shall not apply to the control period beginning May 1, 2009 and any control period thereafter.

**(c) Connecticut emission budget.**

(1) The Connecticut emission budget is two thousand six hundred ninety one (2,691) tons of NO<sub>x</sub> during each control period for each year beginning in 2009.

(2) The Commissioner shall implement the Connecticut emission budget by allocation of NO<sub>x</sub> allowances as described in subsection (e) of this section.

- (3) The Commissioner shall establish the following accounts in the CAIR NATS:
- (A) The Connecticut State Account, to hold the Connecticut emission budget for allocation to the compliance accounts of CAIR NO<sub>x</sub> Ozone Season units; and
  - (B) The Connecticut Retirement Account, to hold NO<sub>x</sub> allowances exacted for purposes other than compliance with this section and permanently retired.

**(d) Allocation timing.**

- (1) For CAIR NO<sub>x</sub> Ozone Season units other than New Units, the Commissioner shall allocate CAIR NO<sub>x</sub> Ozone Season allowances according to the following schedule:
- (A) No later than April 30, 2007, determine and notify the Administrator of each CAIR NO<sub>x</sub> Ozone Season unit's allocation of CAIR NO<sub>x</sub> Ozone Season allowances for the 2009, 2010 and 2011 control periods;
  - (B) No later than October 31, 2008, determine and notify the Administrator of each CAIR NO<sub>x</sub> Ozone Season unit's allocation of CAIR NO<sub>x</sub> Ozone Season allowances for the 2012 control period; and
  - (C) No later than October 31, 2009 and each year thereafter, determine and notify the Administrator of each CAIR NO<sub>x</sub> Ozone Season unit's allocation of CAIR NO<sub>x</sub> Ozone Season allowances for the control period in the fourth calendar year after the year in which the notification is to be submitted.
- (2) For New Units, the Commissioner shall allocate CAIR NO<sub>x</sub> Ozone Season allowances as follows:
- (A) A New Unit commencing operation between January 1 and September 30, 2006:
    - (i) Shall be considered a New Unit for the purpose of allocating CAIR NO<sub>x</sub> Ozone Season allowances during the 2009-2011 control periods, and
    - (ii) Shall be considered a Cogeneration Unit, an Industrial Unit, a Reciprocating grate waste tire fired Unit or a Phase II Unit for the purpose of allocating CAIR NO<sub>x</sub> Ozone Season allowances for the 2012 and later control periods;
  - (B) A New Unit commencing operation between October 1, 2006 and September 30, 2007:
    - (i) Shall be considered a New Unit for the purpose of allocating CAIR NO<sub>x</sub> Ozone Season allowances during the 2009-2012 control periods, and
    - (ii) Shall be considered a Cogeneration Unit, an Industrial Unit, a Reciprocating grate waste tire fired Unit or a Phase II Unit for the purpose of allocating CAIR NO<sub>x</sub> Ozone Season allowances for the 2013 and later control periods;

- (C) A New Unit commencing operation between October 1, 2007 and September 30, 2008:
- (i) Shall be considered a New Unit for the purpose of allocating CAIR NO<sub>x</sub> Ozone Season allowances during the 2009-2013 control periods, and
  - (ii) Shall be considered a Cogeneration Unit, an Industrial Unit, a Reciprocating grate waste tire fired Unit or a Phase II Unit for the purpose of allocating CAIR NO<sub>x</sub> Ozone Season allowances for the 2014 and later control periods; and
- (D) A New Unit commencing operation after September 30, 2008:
- (i) Shall be considered a New Unit for the period of time commencing with initial operation through operation during the sixth control period or portion thereof following date of initial operation, and
  - (ii) Shall be considered a Cogeneration Unit, an Industrial Unit, a Reciprocating grate waste tire fired Unit or a Phase II Unit for the purpose of allocating CAIR NO<sub>x</sub> Ozone Season allowances for the seventh and later control periods.

(3) For New Units, the Commissioner will determine and notify the Administrator of each New Unit's allocation of CAIR NO<sub>x</sub> Ozone Season allowances by July 31 of the year for which the CAIR NO<sub>x</sub> Ozone Season allowances are allocated.

**(e) CAIR NO<sub>x</sub> Ozone Season allowance allocations.**

(1) In applying the provisions of this subsection to a CAIR NO<sub>x</sub> Ozone Season unit, such unit shall be categorized as a Phase I Unit, a Cogeneration Unit, an Industrial Unit, a New Unit, a Reciprocating grate waste tire fired Unit or a Phase II Unit, as applicable. CAIR NO<sub>x</sub> Ozone Season units meeting the definition of Cogeneration Unit shall not be categorized as a Phase I Unit, Industrial Unit, Reciprocating grate waste tire fired Unit or a Phase II Unit. CAIR NO<sub>x</sub> Ozone Season units meeting the definition of Industrial Unit shall not be categorized as a Phase I Unit, Cogeneration Unit, Reciprocating grate waste tire fired Unit or a Phase II Unit.

(2) For the control period commencing May 1, 2009 and through the 2014 control period, the Commissioner shall allocate among the owners or operators of CAIR NO<sub>x</sub> Ozone Season units, other than New Units, up to two thousand two hundred twenty-three (2,223) CAIR NO<sub>x</sub> Ozone Season allowances.

(3) For the control period commencing May 1, 2015 and each control period thereafter, the Commissioner shall allocate among the owners or operators of CAIR NO<sub>x</sub> Ozone Season units, other than New Units, up to two thousand two hundred eighty-nine (2,289) CAIR NO<sub>x</sub> Ozone Season allowances.

(4) For the control period commencing May 1, 2009 and through the 2014 control period, the Commissioner shall allocate among the owners or operators of New Units up to two hundred (200) CAIR NO<sub>x</sub> Ozone Season allowances.

(5) For the control period commencing May 1, 2015 and each control period thereafter, the Commissioner shall allocate among the owners or operators of New Units up to one hundred thirty-four (134) CAIR NO<sub>x</sub> Ozone Season allowances.

(6) For the control period commencing May 1, 2009 and each control period thereafter, the Commissioner shall allocate up to two hundred sixty-eight (268) CAIR NO<sub>x</sub> Ozone Season allowances to Proponents in accordance with subsection (f) of this section.

(7) For the 2009, 2010, and 2011 control periods, the Commissioner, in the following manner and order, shall:

- (A) Allocate to the compliance account of each Cogeneration Unit, Industrial Unit and Reciprocating grate waste tire fired Unit the number of CAIR NO<sub>x</sub> Ozone Season allowances equal to the product of the following equation:

$$\frac{(ER \times HI_{AVG})}{2000 \frac{lb}{ton}}$$

Where:

- ER = The lowest of:
- (i) the unit's NO<sub>x</sub> RACT emission rate (in lb/mmBtu of heat input) during the 2005 and 2006 control periods, as required in section 22a-174-22 of the Regulations of Connecticut State Agencies, or
  - (ii) the unit's average permitted NO<sub>x</sub> emission rate (in lb/mmBtu of heat input) during the 2005 and 2006 control periods, or
  - (iii) the average of the unit's actual NO<sub>x</sub> emission rate (in lb/mmBtu of heat input) during the 2005 and 2006 control periods, unless the owner or operator submits a written request for the Commissioner's review and approval, for the use of an alternate two-year control period during 2003-2006, including justification and data for such alternate two-year control period.
- HI<sub>AVG</sub> = the unit's actual average heat input (in mmBtu) during the 2005 and 2006 control periods, unless the owner or operator submits a written request for the Commissioner's review and approval, for the use of an alternate two-year control period during 2003-2006, including justification and data for such alternate two-year control period

- (B) Allocate to the compliance account of each Phase I Unit the number of CAIR NO<sub>x</sub> Ozone Season allowances equal to the product of the following equation:

$$\frac{\left(1.2 \frac{lb}{MWh} \times EO_U\right)}{2000 \frac{lb}{ton}}$$

Where:

$EO_U$  = each Phase I Unit's average net electricity output (in MWh) during the 2005 and 2006 control periods, unless the owner or operator submits a written request for the Commissioner's review and approval, for the use of an alternate two-year control period during 2003-2006, including justification and data for such alternate two-year control period

- (C) Allocate to the compliance account of each Phase II Unit the number of CAIR  $NO_x$  Ozone Season allowances equal to the product of the following equation:

$$(A - A_{ALLOCATED}) \times \left( \frac{EO_U}{EO_{TOTAL}} \right)$$

Where:

$A$  = 2,223 CAIR  $NO_x$  Ozone Season allowances

$A_{ALLOCATED}$  = the total number of CAIR  $NO_x$  Ozone Season allowances allocated to Industrial Units, Cogeneration Units, Reciprocating grate waste tire fired Units and Phase I Units in a given year pursuant to subdivisions (7)(A) and (7)(B) of this subsection

$EO_U$  = the Phase II Unit's average net electricity output (in MWh) for the 2005 and 2006 control periods, unless the owner or operator submits a written request for the Commissioner's review and approval, for the use of an alternate two-year control period during 2003-2006, including justification and data for such alternate two-year control period

$EO_{TOTAL}$  = the total average net electricity output (in MWh) of all Phase II Units during the 2005 and 2006 control periods, unless the owner or operator submits a written request for the Commissioner's review and approval, for the use of an alternate two-year control period during 2003-2006, including justification and data for such alternate two-year control period

- (D) Any owner or operator may submit a written request for the Commissioner's review and approval for the use of an alternate two-year control period pursuant to Regulations of Connecticut State Agencies sections 22a-174-22c(e)(7)(A), (B)



or (C) if the average NO<sub>x</sub> emission rate, average heat input or average net electricity output data from the CAIR NO<sub>x</sub> Ozone Season unit during the 2005 and 2006 control periods was not representative for the following reasons:

- (i) Transmission line failure,
- (ii) Equipment failure, or
- (iii) Any other reason related to unplanned outage.

(8) For the 2012 control period, and each control period thereafter, the Commissioner, in the following manner and order, shall:

- (A) Allocate to the compliance account of each Cogeneration Unit, Industrial Unit, and Reciprocating grate waste tire fired Unit the number of CAIR NO<sub>x</sub> Ozone Season allowances equal to the product of the following calculation:

$$\frac{(ER \times HI_{AVG})}{2000 \frac{lb}{ton}}$$

Where:

ER = the lowest of:

- (i) the unit's NO<sub>x</sub> RACT emission rate (in lb/mmBtu of heat input), during the 5<sup>th</sup> and 6<sup>th</sup> control periods preceding the year of allocation, as required in section 22a-174-22 of the Regulations of Connecticut State Agencies, or
- (ii) the unit's average permitted NO<sub>x</sub> emission rate (in lb/mmBtu of heat input) during the 5<sup>th</sup> and 6<sup>th</sup> control periods preceding the year of allocation, or
- (iii) the average of the unit's actual NO<sub>x</sub> emission rate (in lb/mmBtu of heat input) during the 5<sup>th</sup> and 6<sup>th</sup> control periods preceding the year of allocation.

HI<sub>AVG</sub> = the unit's actual average heat input (in mmBtu) during the 5<sup>th</sup> and 6<sup>th</sup> control periods preceding the year of allocation

- (B) Allocate to the compliance account of each Phase I Unit and Phase II Unit the number of CAIR NO<sub>x</sub> Ozone Season allowances equal to the product of the following equation:

$$(A - A_{ALLOTTED}) \times \left( \frac{EO_U}{EO_{TOTAL}} \right)$$

Where:

- A = 2,223 CAIR NO<sub>x</sub> Ozone Season allowances for 2009-2014;  
2,289 CAIR NO<sub>x</sub> Ozone Season allowances for 2015 and beyond
- A<sub>ALLOCATED</sub> = the total number of CAIR NO<sub>x</sub> Ozone Season allowances allocated to Industrial Units, Cogeneration Units and Reciprocating grate waste tire fired Units pursuant to subdivision (8)(A) of this subsection for the control period
- EO<sub>U</sub> = each Phase I and Phase II Unit's average net electricity output (in MWh) during the 5<sup>th</sup> and 6<sup>th</sup> control periods preceding the year of allocation
- EO<sub>TOTAL</sub> = the total average net electricity output (in MWh) of Phase I and Phase II Units during the 5<sup>th</sup> and 6<sup>th</sup> control periods preceding the year of allocation

(9) By July 31 of the 2009 control period and each control period thereafter, the Commissioner shall:

- (A) Allocate to the compliance account of each New Unit the number of CAIR NO<sub>x</sub> Ozone Season allowances equal to the product of the following equation, subject to the limitation in subparagraph (B) of this subdivision:

$$\frac{(ER \times HIR \times HO_{CP})}{2000 \frac{lb}{ton}}$$

Where:

- ER = the lower of:  
(i) 0.12 lb/MMBtu, or  
(ii) the unit's permitted NO<sub>x</sub> emission rate (in lb/mmBtu of heat input) during the control period.
- HIR = the lower of:  
(i) the unit's maximum design heat input (in mmBtu/hr),  
or  
(ii) the unit's permitted heat input rate (in mmBtu/hr) during the control period.
- HO<sub>CP</sub> = the number of hours the unit operated during the prior control period, rounded to the nearest whole hour by rounding down for decimals less than 0.5, and rounded up for decimals of 0.5 or greater. If the unit did not operate during the prior control period, the number of hours shall

be determined by the Commissioner based on information submitted pursuant to subsection (i)(2) of this section

(B) For 2009-2014:

IF  $\Sigma NUA_{CALCULATED} < 200$ , THEN

$$A_{ALLOCATED-NU} = A_{NU}$$

IF  $\Sigma NUA_{CALCULATED} > 200$ , THEN

$$A_{ALLOCATED-NU} = A_{NU} \times \left( \frac{200}{\Sigma NUA_{CALCULATED}} \right)$$

rounded to the nearest whole allowance, as appropriate.

For 2015 and beyond:

IF  $\Sigma NUA_{CALCULATED} < 134$ , THEN

$$A_{ALLOCATED-NU} = A_{NU}$$

IF  $\Sigma NUA_{CALCULATED} > 134$ , THEN

$$A_{ALLOCATED-NU} = A_{NU} \times \left( \frac{134}{\Sigma NUA_{CALCULATED}} \right)$$

rounded to the nearest whole allowance, as appropriate.

Where:

$\Sigma NUA_{CALCULATED}$  = the total number of CAIR NO<sub>x</sub> Ozone Season allowances calculated for New Units pursuant to subdivision (9)(A) of this subsection

$A_{ALLOCATED-NU}$  = the number of CAIR NO<sub>x</sub> Ozone Season allowances the Commissioner shall allocate to the compliance account of each New Unit

$A_{NU}$  = the number of CAIR NO<sub>x</sub> Ozone Season allowances calculated for each New Unit pursuant to subdivision (9)(A) of this subsection

The Commissioner may adjust an allowance allocation under this subparagraph as necessary to not exceed  $\Sigma NUA_{CALCULATED}$ .

(C) Allocate to the compliance account of each Phase I and Phase II Unit the number of CAIR NO<sub>x</sub> Ozone Season allowances, if any, equal to the product of the following equation:

For 2009-2014:

$$\left[ (200 - A_{\text{ALLOCATED-NU}}) + (268 - A_{\text{ALLOCATED-P}}) \times \left( \frac{EO_U}{EO_{\text{TOTAL}}} \right) \right]$$

For 2015 and beyond:

$$\left[ (134 - A_{\text{ALLOCATED-NU}}) + (268 - A_{\text{ALLOCATED-P}}) \times \left( \frac{EO_U}{EO_{\text{TOTAL}}} \right) \right]$$

Where:

- $A_{\text{ALLOCATED-NU}}$  = The number of CAIR NO<sub>x</sub> Ozone Season allowances allocated to New Units pursuant to subdivision (9)(A) of this subsection for the current year control period.
- $A_{\text{ALLOCATED-P}}$  = The number of CAIR NO<sub>x</sub> Ozone Season allowances allocated to Proponents pursuant to subsection (f) of this section for the current year control period.
- $EO_U$  = For the years 2009-2011, each Phase I and Phase II Unit's average net electricity output (in MWh) during the 2005 and 2006 control periods, unless the owner or operator submits a written request for the Commissioner's review and approval, for the use of an alternate two-year control period during 2003-2006, including justification and data for such alternate two-year control period. For the year 2012 and each year thereafter, each Phase I and Phase II Unit's average net electricity output (in MWh) during the 5<sup>th</sup> and 6<sup>th</sup> control periods preceding the year of allocation.
- $EO_{\text{TOTAL}}$  = For the years 2009-2011, the total average net electricity output (in MWh) of Phase I and Phase II Units during the 2005 and 2006 control periods, unless the owner or operator submits a written request for the Commissioner's review and approval, for the use of an alternate two-year control period during 2003-2006, including justification and data for such alternate two-year control period. For the year 2012 and each year thereafter, the total average net electricity output (in MWh) of Phase I and Phase II Units during the 5<sup>th</sup> and 6<sup>th</sup> control periods preceding the year of allocation.

- (D) Any owner or operator may submit a written request for the Commissioner's review and approval for the use of an alternate two-year control period pursuant

to Regulations of Connecticut State Agencies section 22a-174-22c(e)(9)(C) if average net electricity output data from the CAIR NO<sub>x</sub> Ozone Season unit during the 2005 and 2006 control periods was not representative for the following reasons:

- (i) Transmission line failure,
- (ii) Equipment failure, or
- (iii) Any other reason related to unplanned outage.

(10) In 2010, the Commissioner may conduct a review of the CAIR NO<sub>x</sub> Ozone Season allowance allocation methodology in this subsection.

**(f) Energy Efficiency and Renewable Energy Set-Aside (EERESA) Allocation.**

(1) Annual Allowance Allocations. For the control period commencing May 1, 2009 and each control period thereafter, the Commissioner shall:

- (A) Allocate to the compliance account of each Proponent of a REP generating electrical energy the number of CAIR NO<sub>x</sub> Ozone Season allowances equal to the amount determined by the following equation, subject to the limitation in subparagraph (H) of this subdivision:

$$\frac{\left( EEG \times 1.5 \frac{lb}{MWh} \right)}{2000 \frac{lb}{ton}}$$

Where:

EEG = the net electrical energy generated by the REP (in MWh) during the control period

- (B) Allocate to the compliance account of each Proponent of a REP generating useful net thermal energy the number of CAIR NO<sub>x</sub> Ozone Season allowances equal to the amount determined by the following equation, subject to the limitation in subparagraph (H) of this subdivision:

$$\frac{\left( TEG \times 0.44 \frac{lb}{mmBtu} \right)}{2000 \frac{lb}{ton}}$$

Where:

TEG = the useful net thermal energy (in mmBtu) generated by the REP during the control period

- (C) Allocate to the compliance account of each Proponent of an EEP saving electrical energy the number of CAIR NO<sub>x</sub> Ozone Season allowances equal to the amount determined by the following calculation, subject to the limitation in subparagraph (H) of this subdivision:

$$\frac{\left( EES \times 1.5 \frac{lb}{MWh} \right)}{2000 \frac{lb}{ton}}$$

Where:

EES = the amount of electrical energy saved by the EEP (in MWh) during the control period, calculated according to subparagraphs (C)(i) and (C)(ii) of this subdivision

- (i) Except as provided in subparagraph (C)(ii) of this subdivision, the amount of electrical energy saved shall be calculated by comparing the amount of electrical energy consumed during the control period in the calendar year preceding the year in which the application is submitted to the amount of electrical energy consumed during the EERESA Baseline Period. If monthly data for energy consumed is not available, then energy savings shall be calculated by comparing the energy consumed during the calendar year preceding the year in which the application is submitted to the amount of electrical energy consumed during the calendar year in which the EERESA Baseline Period occurred, multiplied by five-twelfths, and
- (ii) For the construction of a new building or addition that exceeds the energy efficiency requirements of the State Building Code, the amount of electrical energy saved shall be calculated by comparing the amount of electrical energy consumed during the first full control period immediately preceding the year the application is submitted to the amount of electrical energy that would have been consumed at the same occupancy level during the control period if the building or addition had been constructed according to the minimum energy efficiency requirements of the State Building Code. If monthly data for energy consumed is not available then energy savings shall be calculated by comparing the energy consumed during the calendar year preceding the year the application is submitted to the amount of electrical energy that would have been consumed at the same occupancy level during the calendar year if the building or addition had been constructed according to the minimum energy efficiency requirements of the State Building Code, multiplied by five-twelfths;
- (D) Allocate to the compliance account of each Proponent of an EEP saving thermal energy the number of CAIR NO<sub>x</sub> Ozone Season allowances equal to the amount determined by the following equation, subject to the limitation in subparagraph (H) of this subdivision:

$$\frac{\left( TES \times 0.44 \frac{lb}{mmBtu} \right)}{2000 \frac{lb}{ton}}$$

Where:

TES = the amount of thermal energy saved by the EEP (in mmBtu) during the control period calculated according to subparagraphs (D)(i) and (D)(ii) of this subdivision

- (i) Except as provided in subparagraph (D)(ii) of this subdivision, the amount of thermal energy saved shall be calculated by comparing the amount of thermal energy consumed during the control period in the calendar year preceding the year in which the application is submitted to the amount of thermal energy consumed during the EERESA Baseline Period. If monthly data for energy consumed is not available, then energy savings shall be calculated by comparing the energy consumed during the calendar year preceding the year in which the application is submitted to the amount of thermal energy consumed during the calendar year in which the EERESA Baseline Period occurred, multiplied by five-twelfths, and
  - (ii) For the construction of a new building or addition that exceeds the energy efficiency requirements of the State Building Code, the amount of thermal energy saved shall be calculated by comparing the amount of thermal energy consumed during the first full control period immediately preceding the year the application is submitted to the amount of thermal energy that would have been consumed at the same occupancy level during the control period if the building or addition had been constructed according to the minimum energy efficiency requirements of the State Building Code. If monthly data for energy consumed is not available then energy savings shall be calculated by comparing the energy consumed during the calendar year immediately preceding the year the application is submitted to the amount of thermal energy that would have been consumed at the same occupancy level during the calendar year if the building or addition had been constructed according to the minimum energy efficiency requirements of the State Building Code, multiplied by five-twelfths;
- (E) Allocate to the compliance account of each Proponent of an EEP saving thermal or mechanical energy in a manufacturing process where energy consumption is measured on a unit of production basis, the number of CAIR NO<sub>x</sub> Ozone Season allowances equal to the amount determined by the following equation, subject to the limitation in subparagraph (H) of this subdivision:

$$\frac{\left(\frac{EC_1}{PP_1} - \frac{EC_2}{PP_2}\right) \times PP_2 \times NE_2 \times \left(\frac{NE_1}{NE_2}\right)}{2000 \frac{lb}{ton}}$$

Where:

- EC<sub>1</sub> = Energy consumed during the EERESA Baseline Period in mmBtu. If monthly data is not available for the control period, then EC<sub>1</sub> = the amount of energy consumed during any one of the three calendar years before the year in which the EEP was first put in use or first became operational, multiplied by five-twelfths
- PP<sub>1</sub> = Units of product produced per EERESA Baseline Period. If monthly data is not available for the control period, then PP<sub>1</sub> = the units of product produced during any one of the three calendar years before the year in which the EEP was first put in use or first became operational, multiplied by five-twelfths
- NE<sub>1</sub> = NO<sub>x</sub> emitted during the consumption of energy, measured in pounds per mmBtu heat input during the EERESA Baseline Period. If monthly data is not available for the control period, then NE<sub>1</sub> = NO<sub>x</sub> emitted during any one of the three calendar years before the year in which the EEP was first put in use or first became operational, multiplied by five-twelfths
- EC<sub>2</sub> = Energy consumed during the control period in the year before the calendar year in which the application is submitted. If monthly data is not available for the control period, then EC<sub>2</sub> = energy consumed during the calendar year before the year in which the application is submitted, multiplied by five-twelfths
- PP<sub>2</sub> = Units of product produced during the control period in the year before the calendar year in which the application is submitted. If monthly data is not available for the control period then PP<sub>2</sub> = units of product produced during the calendar year before the year in which the application is submitted, multiplied by five-twelfths
- NE<sub>2</sub> = NO<sub>x</sub> emitted during the consumption of energy, measured in pounds per mmBtu heat input during the control period in the year before the calendar year in which the application is submitted. If monthly data is not available for the control period then NE<sub>2</sub> = NO<sub>x</sub> emitted during the calendar year before the year in which the application is submitted, multiplied by five-twelfths



- (F) Allocate to the compliance account of each Proponent of a combined heat and power system with actual energy efficiency equal to or greater than 60%, as determined according to the equation in subparagraph (F)(i) of this subdivision, the number of CAIR NO<sub>x</sub> Ozone Season allowances equal to the amount determined by the equation in subparagraph (F)(ii) of this subdivision, subject to the limitation in subparagraph (H) of this subdivision:

$$(i) \quad \text{Eff\%} = \frac{(NEO + UTO)}{GEI}$$

Where:

Eff% = Actual energy efficiency

NEO = Net electricity output of the system converted to British thermal units, (Btus) per unit of time

UTO = Net useful thermal energy output, in Btus per unit of time

GEI = Gross energy input, and

$$(ii) \quad \frac{NOx_{CONV} - NOx_{CHP}}{2000 \frac{lb}{ton}}$$

Where:

$$NOx_{CONV} = \left[ \frac{NEE \times \left( 3412 \frac{Btu}{kWh} \right)}{0.34} + \frac{NUTE}{0.8} \right] \times 0.15 \frac{lb}{mmBtu} \left[ \frac{1,000,000 \frac{Btu}{mmBtu}}{1,000,000 \frac{Btu}{mmBtu}} \right]$$

$$NOx_{CHP} = \left[ \frac{HI}{1,000,000 \frac{Btu}{mmBtu}} \right] \times NOx_{RATE}$$

NEE = the number of kilowatt-hours of net electrical energy generated by the system during the EERESA Baseline Period. If monthly data is not available for the EERESA Baseline Period, then the number of

kilowatt-hours of net electrical energy generated by the system during any one of the three calendar years before the year in which the system first generated energy, multiplied by five-twelfths

NUTE = the number of British thermal units (Btu) of net useful thermal energy used by the system for space, water or industrial process heat during a control period. If monthly data is not available for the control period, then NUTE = the number of British thermal units (Btu) of net useful thermal energy used by the system for space, water or industrial process heat during a calendar year, multiplied by five-twelfths

HI = the heat input of fuel used by the system to produce electrical or thermal energy during the EERESA Baseline Period. If monthly data is not available for the EERESA Baseline Period, then HI = the heat input of fuel used by the system to produce electrical or thermal energy during any one of the three calendar years before the year during which the system first generated energy, multiplied by five-twelfths

NO<sub>x</sub>RATE = NO<sub>x</sub> emitted in normal system operation by the project (lbs NO<sub>x</sub>/mmBtu)

(G) Allocate to the compliance account of each Proponent of a QOP the number of CAIR NO<sub>x</sub> Ozone Season allowances equal to an amount determined under subparagraphs (A) through (F), inclusive, of this subdivision, as may be applicable, or an amount determined by the Commissioner, subject to the limitation in subparagraph (H) of this subdivision; and

(H) IF  $\Sigma PA_{CALCULATED} \leq 268$ , THEN

$$A_{ALLOCATED-P} = A_p.$$

IF  $\Sigma PA_{CALCULATED} > 268$ , THEN

$$A_{ALLOCATED-P} = A_p \times \left( \frac{268}{\Sigma PA_{CALCULATED}} \right)$$

Where:

$\Sigma PA_{CALCULATED}$  = the total number of CAIR NO<sub>x</sub> Ozone Season allowances calculated for Proponents pursuant to subparagraphs (A) through (G), as applicable, of this subdivision

$A_{\text{ALLOCATED-P}}$  = the number of CAIR NO<sub>x</sub> Ozone Season allowances the Commissioner shall allocate to the compliance account of each Proponent

$A_p$  = the number of CAIR NO<sub>x</sub> Ozone Season allowances calculated for each Proponent pursuant to subparagraphs (A) through (G), as applicable, of this subdivision

(2) Only REPs that were built and began generating energy and EEPs and QOPs that were built and in use, or installed and operational, on or after January 1, 2001 are eligible to receive CAIR NO<sub>x</sub> Ozone Season allowances.

(3) Each Proponent shall apply to the Commissioner to receive an allocation of CAIR NO<sub>x</sub> Ozone Season allowances from the EERESA according to the following procedures:

- (A) Prior to submitting an application to receive an allocation of CAIR NO<sub>x</sub> Ozone Season allowances from the EERESA, each Proponent shall establish a general account in accordance with 40 CFR 96.351;
- (B) All applications shall be submitted on the Department's Energy Efficiency and Renewable Energy Set-Aside Allowance Application form and shall include the following information:
  - (i) A description of the project that includes the installation date and the estimated lifetime, a calculation of the amount of energy saved or generated and an explanation of the electricity monitoring and verification method,
  - (ii) If the project requires approval by the Commissioner as an EEP or a QOP, a request for such approval,
  - (iii) Any additional information that the Commissioner may request, and
  - (iv) A certification prepared and signed as required by section 22a-174-2a(a)(5) of the Regulations of Connecticut State Agencies;
- (C) In 2009, and each year thereafter, Proponents shall submit applications to the Department by February 1 of each year. The designated year in which the allowances are allocated will correspond to the calendar year in which the application is submitted. The allocation will be based on the energy saved or generated in the calendar year or, for projects aggregated over several years of operation, years preceding the year in which the application is submitted;
- (D) A Proponent may request an allocation of allowances from the EERESA for a maximum of five (5) years at a time. A separate verification of operation and calculation of energy generation or energy savings shall be submitted annually for

each year during which a REP generates energy or an EEP or a QOP saves energy;

- (E) Only one Proponent may submit an application to be allocated allowances from the EERESA for a single REP, EEP or QOP in a single calendar year. If more than one Proponent submits an application for the same project for the same calendar year, the Commissioner, at his or her discretion, may refuse to accept such applications; and
- (F) A Proponent shall not submit an application under this subsection for energy generation or energy savings equivalent to less than one whole allowance. An EERESA Representative may submit an application that:
  - (i) Aggregates any combination of one or more REPs, EEPs or QOPs that individually save or generate energy in a single calendar year equivalent to less than one allowance but for which the energy savings or generation is equivalent to a minimum of one whole allowance when aggregated,
  - (ii) Aggregates two or more years of operation by a single REP, EEP or QOP that saves or generates energy equivalent to less than one allowance in a single year but for which the energy savings or generation is equivalent to a minimum of one whole allowance when aggregated, and
  - (iii) Aggregates two or more years of operation by any combination of one or more REPs, EEPs or QOPs that save or generate energy in a single calendar year equivalent to less than one whole allowance when aggregated but for which the energy savings or generation is equivalent to a minimum of one whole allowance when aggregated over two or more years of operation.

(4) Each Proponent shall measure the amount of energy saved or generated by each project according to subparagraphs (A) through (C) of this subdivision or subparagraph (D) of this subdivision, as follows:

- (A) Adhering to the requirements of the International Performance Measurement and Verification Protocol, as revised in March 2002, DOE/GO-102002-1554 or the U.S. Environmental Protection Agency's Conservation Verification Protocol; and
- (B) Adhering to the measurement and verification provisions of NEPOOL's Operating Procedure 18 "Metering and Telemetry" or other provisions acceptable to the Commissioner; and
- (C) Making the normalization adjustments for energy savings in accordance with the International Performance Measurement and Verification Protocol, as revised in March 2002, DOE/GO-102002-1554; or
- (D) Using any applicable measurement and verification protocols submitted to and approved by the Commissioner.

(5) Nothing in this subsection shall preclude the Commissioner from reducing the number of allowances allocated to a REP, EEP or QOP to account for:

- (A) Any NO<sub>x</sub> emissions associated with the operation of a REP, EEP or QOP;
- (B) Uncertainty in the measurement or verification of the actual emissions reductions or energy savings achieved by a project; and
- (C) Any other circumstances identified by the Commissioner in writing and provided to the Proponent.

(6) The Proponent of a prospective project may apply to the Commissioner to receive an estimate of the number of allowances that the Commissioner may award from the EERESA to the prospective project pursuant to the requirements of this subsection after the prospective project has operated for one ozone season. The following considerations shall apply to such a prospective project:

- (A) An application made pursuant to this subdivision shall be made on a form prescribed by the Commissioner and shall include the following information:
  - (i) The Proponent's full name and business address,
  - (ii) The name and telephone number for a person to contact regarding the application,
  - (iii) A description of the project that includes the estimated completion date, the calculation of the electricity anticipated to be saved or supplied and an explanation of the planned electricity monitoring and verification method,
  - (iv) Any other information requested by the permitting authority, and
  - (v) A certification prepared and signed as required by section 22a-174-2a(a)(5) of the Regulations of Connecticut State Agencies;
- (B) After completing the construction or installation of a prospective project for which the Commissioner has made an estimate of allowances that may be allocated from the EERESA pursuant to this subdivision and after operating the project for one ozone season, the Proponent may apply to receive an actual allocation of allowances from the EERESA according to the requirements of subdivision (3) of this subsection; and
- (C) A determination by the Commissioner concerning an application submitted pursuant to this subdivision is not a binding commitment to allocate the estimated number of allowances from the EERESA to the Proponent after such project initiates operation.

(7) In 2010, the Commissioner may conduct a review of the Energy Efficiency and Renewable Energy Set-Aside Allocation program, including, but not limited to, the following factors:

- (A) Success in facilitating energy efficiency and renewable energy projects;
- (B) Impacts on CAIR NO<sub>x</sub> Ozone Season allowance price and availability; and
- (C) Appropriateness of the size of the EERESA.

**(g) CAIR NO<sub>x</sub> Ozone Season allowance use.**

(1) A CAIR NO<sub>x</sub> Ozone Season allowance reserved, allocated, banked or traded is reserved, allocated, banked or traded subject to all applicable legal requirements and limitations, including, but not limited to, the requirements of this section and the provisions of sections 22a-1, 22a-5, 22a-6, 22a-174 and 22a-174c of the Connecticut General Statutes.

(2) Except as provided in subdivision (3) of this subsection and subsection (i) of this section, CAIR NO<sub>x</sub> Ozone Season allowances cannot be used to meet or exceed the limitations of any permit, order or other applicable requirement.

(3) The Commissioner may allow the owner or operator of a CAIR NO<sub>x</sub> Ozone Season unit to use CAIR NO<sub>x</sub> Ozone Season allowances beyond those otherwise required for compliance with this section to comply with section 22a-174-22(e) of the Regulations of Connecticut State Agencies pursuant to the provisions of section 22a-174-22(j) of the Regulations of Connecticut State Agencies.

(4) Emission offsets required for new or modified major stationary sources of NO<sub>x</sub> must be obtained in accordance with section 22a-174-3a of the Regulations of Connecticut State Agencies and are subject to the offset requirements of Section 173 of the Act. CAIR NO<sub>x</sub> Ozone Season allowances may not be used as offsets, unless the Commissioner permanently adjusts the state trading budget commensurate with the number of unused NO<sub>x</sub> allowances approved for use as offsets and the owner or operator of a CAIR NO<sub>x</sub> Ozone Season unit meets the following conditions:

- (A) Reduces the emissions of such CAIR NO<sub>x</sub> Ozone Season unit such that not all CAIR NO<sub>x</sub> Ozone Season allowances allocated to that unit are used; and
- (B) Satisfies the requirements of section 22a-174-3a(l)(5) of the Regulations of Connecticut State Agencies.

(5) If the owner or operator of a CAIR NO<sub>x</sub> Ozone Season unit transfers emission reductions as offsets to sources of NO<sub>x</sub> not participating in a CAIR NO<sub>x</sub> Ozone Season allowance trading program administered by the Administrator under 40 CFR 51.123, such owner or operator shall surrender the CAIR NO<sub>x</sub> Ozone Season allowances representing the emissions reductions in an amount equivalent to the emission reductions transferred off-budget.

**(h) Reserved.**

**(i) Allowance tracking and banking; monitoring; recordkeeping and reporting; and other requirements.**

(1) Each owner or operator and each designated representative of a CAIR NO<sub>x</sub> Ozone Season unit that is subject to this section shall comply with each applicable requirement set forth in Table 22c-1 and incorporated by reference herein, as follows:

- (A) Terms used in the incorporated sections of the CFR shall be defined as in 40 CFR 96.302, unless defined pursuant to subsection (a) of this section;
- (B) To the extent that Table 22c-1 of this section refers to text in 40 CFR 96 that includes the Hg Budget Trading Program, CAIR SO<sub>2</sub> trading, CAIR NO<sub>x</sub> Annual Trading Program, 40 CFR 96 subpart IIII and CAIR NO<sub>x</sub> Ozone Season Opt-in Unit, such references are not incorporated by reference;
- (C) To the extent the federal regulations incorporated into this section refer to CAIR NO<sub>x</sub> Ozone Season Allowance Allocations, Subpart EEEE and 40 CFR 96.340-42, such references shall be replaced with subsections (c), (d), (e) or (f) of this section, as appropriate; and
- (D) To the extent the federal regulations incorporated into this section refer to 40 CFR 96.304, such references shall be replaced with subsection (b) of this section.

(2) Additional reporting requirements. Each owner and operator of a CAIR NO<sub>x</sub> Ozone Season unit shall report the information identified in this subdivision:

- (A) By October 31 of each year, the owner or operator of each CAIR NO<sub>x</sub> Ozone Season unit shall report to the Commissioner the metered net electricity output (in MWh) and useful steam output (in mmBtu) for the facility at which the unit is located for that year's control period. If data for steam output is not available, the owner or operator may report heat input providing useful steam output as a surrogate for useful steam output; and
- (B) The owner or operator of each New Unit operating in the first control period following the date of commencement of operation shall by July 1 of that first control period report to the Commissioner an estimate of the total number of hours of operation for the control period. The owner or operator of each New Unit operating in the second and later control periods following the date of commencement of operation shall by July 1 of such second and later control periods report to the Commissioner the number of hours the unit operated during the prior control period, rounded to the nearest whole hour by rounding down for decimals less than 0.5, and rounded up for decimals of 0.5 or greater.

(3) Monitoring and related reporting requirements. The requirements of 40 CFR 96.374(d)(2)(ii) shall only apply to those owners and operators of CAIR NO<sub>x</sub> Ozone Season units that are not subject to an Acid Rain emissions limitation and are not monitoring NO<sub>x</sub> emissions using a Continuous emission monitoring system (CEMS).

(4) Additional excess emissions requirements. The Administrator shall deduct, for excess emissions in the 2008 control period determined according to section 22a-174-22b of the Regulations of Connecticut State Agencies, CAIR NO<sub>x</sub> Ozone Season allowances allocated for

the 2009 control period in the manner specified in 40 CFR 96.354(d) for excess emissions in the 2009 compliance period and beyond.

(5) Copies of the relevant sections of 40 CFR 96 incorporated by reference in this section are available by contacting:

Connecticut Department of Environmental Protection  
Bureau of Air Management  
Planning and Standards Division  
79 Elm Street  
Hartford, Connecticut 06106  
(860) 424-3027

<b>Table 22c-1</b>	
<b>40 Code of Federal Regulations Part 96</b>	
<b>Provisions Incorporated by Reference as of December 13, 2006</b>	
<b>Subpart AAAA-CAIR NO<sub>x</sub> Ozone Season Trading Program General Provisions</b>	
Section 96.302	Definitions.
Section 96.303	Measurements, abbreviations, and acronyms.
Section 96.305	Retired unit exemption.
Section 96.306	Standard requirements.
Section 96.307	Computation of time.
Section 96.308	Appeal procedures.
<b>Subpart BBBB-CAIR Designated Representative for CAIR NO<sub>x</sub> Ozone Season Sources</b>	
Section 96.310	Authorization and responsibilities of CAIR designated representative.
Section 96.311	Alternate CAIR designated representative.
Section 96.312	Changing CAIR designated representative and alternate CAIR designated representative; changes in owners and operators.
Section 96.313	Certificate of representation.
Section 96.314	Objections concerning CAIR designated representative.
Section 96.315	Delegation by CAIR designated representative and alternate CAIR designated representative.
<b>Subpart CCCC-Permits</b>	
Section 96.320	General CAIR NO <sub>x</sub> Ozone Season Trading Program permit requirements.
Section 96.321	Submission of CAIR permit applications.
Section 96.322	Information requirements for CAIR permit applications.
Section 96.323	CAIR permit contents and term.
Section 96.324	CAIR permit revisions.
<b>Subpart FFFF-CAIR NO<sub>x</sub> Ozone Season Allowance Tracking System</b>	
Section 96.351	Establishment of accounts.
Section 96.352	Responsibilities of CAIR authorized account representative.
Section 96.353	Recordation of CAIR NO <sub>x</sub> Ozone Season allowance allocations.
Section 96.354	Compliance with CAIR NO <sub>x</sub> emissions limitation.
Section 96.355	Banking.
Section 96.356	Account error.
Section 96.357	Closing of general accounts.



<b>Subpart GGGG-CAIR NO<sub>x</sub> Ozone Season Allowance Transfers</b>	
Section 96.360	Submission of CAIR NO <sub>x</sub> Ozone Season allowance transfers.
Section 96.361	EPA recordation.
Section 96.362	Notification.
<b>Subpart HHHH-Monitoring and Reporting</b>	
Section 96.370	General requirements.
Section 96.371	Initial certification and recertification procedures.
Section 96.372	Out of control periods.
Section 96.373	Notifications.
Section 96.374 (Except as provided in subsection (i)(3) of this section)	Recordkeeping and reporting.
Section 96.375	Petitions.

**Statement of Purpose:** In order to mitigate interstate transport of the ozone precursor nitrogen oxides (NO<sub>x</sub>), and in order to assist the state in achieving attainment of the National Ambient Air Quality Standard for ozone, Connecticut has participated in two distinct market-based NO<sub>x</sub> ozone season cap-and-trade programs. From 1999 through 2002, Regulations of Connecticut State Agencies (R.C.S.A.) section 22a-174-22a established such a trading program among states in the Ozone Transport Commission. Beginning in 2003, R.C.S.A. section 22a-174-22b established Connecticut's Post-2002 NO<sub>x</sub> Budget Program (also known as the NO<sub>x</sub> State Implementation Plan (SIP) Call), which is based on a model ozone season NO<sub>x</sub> cap-and-trade program of the U.S. Environmental Protection Agency (EPA). EPA has recently promulgated a new ozone season NO<sub>x</sub> emissions cap-and-trade program, the Clean Air Interstate Rule NO<sub>x</sub> Ozone Season Trading Program (CAIR Trading Program), that is intended to replace the NO<sub>x</sub> Budget Program as of May 1, 2009. This proposal, which repeals R.C.S.A. sections 22a-174-22a and 22a-174-22b and adopts a CAIR NO<sub>x</sub> Ozone Season Trading Program under new R.C.S.A. section 22a-174-22c, is Connecticut's approach to implementing the CAIR Trading Program in Connecticut.

The general structure of new R.C.S.A. section 22a-174-22c is very similar to the existing NO<sub>x</sub> Budget Program set forth in R.C.S.A. section 22a-174-22b. R.C.S.A. section 22a-174-22c incorporates by reference the majority of the provisions included in EPA's model rule for the CAIR Trading Program. The major differences between both R.C.S.A. section 22a-174-22b and the federal CAIR Trading Program as compared with R.C.S.A. section 22a-174-22c are the methodology for allocating CAIR NO<sub>x</sub> Ozone Season allowances and the inclusion of Energy Efficiency/Renewable Energy set-aside provisions.

Specifically, the sections of the proposal accomplish the above as follows:

- Sections 1 and 2 of the proposal repeal obsolete NO<sub>x</sub> Budget Programs contained in R.C.S.A. sections 22a-174-22a and 22a-174-22b.
- Section 3 of the proposal, which addresses R.C.S.A. section 22a-174-22c, reduces the emissions of NO<sub>x</sub> from large stationary sources during the period of May 1 through September 30 by means of a market-based, cap-and-trade system, consistent with the federal CAIR Trading Program.