

**Alternative NO<sub>x</sub> Allowance  
Allocation Language  
for the Clean Air Interstate Rule**

**Prepared by the  
State and Territorial Air Pollution Program  
Administrators (STAPPA)  
and the  
Association of Local Air Pollution Control Officials  
(ALAPCO)**

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## **About STAPPA and ALAPCO**

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The State and Territorial Air Pollution Program Administrators (STAPPA) and the Association of Local Air Pollution Control Officials (ALAPCO) are the two national associations of air quality officials in the states, territories and major metropolitan areas throughout the country. The members of STAPPA and ALAPCO have primary responsibility for implementing our nation's air pollution control laws and regulations. The associations serve to encourage the exchange of information and experience among air pollution control officials; enhance communication and cooperation among federal, state and local regulatory agencies; and facilitate air pollution control activities that will result in clean, healthful air across the country. STAPPA and ALAPCO share joint headquarters in Washington, DC.

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## **Acknowledgements**

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On behalf of the State and Territorial Air Pollution Program Administrators (STAPPA) and the Association of Local Air Pollution Control Officials (ALAPCO), we are pleased to provide *Alternative NO<sub>x</sub> Allowance Allocation Language for the Clean Air Interstate Rule*. Our associations developed this document in order to present states with different options for allocating NO<sub>x</sub> allowances under the Clean Air Interstate Rule (CAIR) in order to help states and localities that wish to encourage the use of clean technologies by promoting generation and end-use efficiency, renewables or lower emitting technologies. In addition to descriptions of each option, sample regulatory text is included in the attachments. Those states subject to CAIR may wish to consider these options and use the revised regulatory text in their CAIR SIPs.

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Once again, we believe that *Alternative NO<sub>x</sub> Allowance Allocation Language for the Clean Air Interstate Rule* will serve as a useful and important resource for states and localities as they develop their CAIR SIPs and thank all of those who contributed to its development.

Nancy Seidman  
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- A. The cost of the allowance distribution (e.g., free distribution or auction);
- B. The frequency of allocations (e.g., permanent or periodically updated);
- C. The basis for distributing the allowances (e.g., heat-input or power output); and,
- D. The use of allowance set-asides and their size, if used (e.g., new unit set-asides or set-asides for energy efficiency, for development of Integrated Gasification Combined Cycle (IGCC) generation, for renewables or for small units).

According to CAIR, a state may adopt an alternative allocation methodology as long as it does not allocate allowances in excess of the state's NO<sub>x</sub> budget established by EPA and as long as it notifies the Administrator of the allocations according to the EPA schedule.

This document provides states with alternative regulatory language for NO<sub>x</sub> allocation that can provide opportunities to promote clean technologies. The options include:

- Fuel-neutral allocation
- Updating the allocation baseline each time allowances are reallocated
- Reduced allocation lead time to bring new units in more quickly
- Improved treatment of combined heat and power (CHP)
- Increased new source set-aside
- Energy efficiency/renewable set-aside
- Direct allocation to renewables/energy efficiency
- Output-based allocation
- Reduction of NO<sub>x</sub> cap

States can adopt these options directly, if they wish, or use them as the basis for alternatives that are more appropriate for the state's needs. This document begins with a summary of the allocation provisions of the EPA model rule and then provides a description of each of the alternatives. Specific regulatory language is included in Attachments A and B. **These options have not been reviewed or approved by the EPA.**

## I. The EPA Model Rule

The allocation methodology for the annual NO<sub>x</sub> program is described in subpart EE, section 96.142 of the model rule and the allocation for the seasonal NO<sub>x</sub> program is described in subpart EEEE, section 96.342. The provisions of the two sections are essentially identical in construction, so the provisions of the sections are referred to jointly in this document, for example as 96.x40 where x can be 1 or 3, meaning section 96.140 or 96.340.

Section 96.x40 establishes the size of the state trading budgets. Section 96.x41 establishes the overall timing of the allocation programs, with the initial allocation in 2006 for the first six years of the program (2009-2014) and annual allocations thereafter. It also establishes procedures in case a state does not submit allocation data to the EPA. Section 96.x42 is the NO<sub>x</sub> allocation methodology itself. Within section 96.x42:

- paragraph (a) describes how the heat input baseline is calculated for different types of units;
- paragraph (b) establishes the number of allowances to be allocated and describes the allocation calculation;
- paragraph (c) describes the new source set-aside; and
- paragraph (d) governs the redistribution of unused allowances from the new source set-aside.

The model rule allocates allowances on their historic (baseline) heat input. The first step in the allocation process is to calculate the baseline heat input for each unit. Each unit then receives allowances proportional to its share of the total baseline heat input in the state. The units are dealt with in two categories for the calculation of the baseline heat input:

1. For older units (those that commenced commercial operation prior to 2001), the EPA approach is a fuel-weighted, heat input-based allocation. The baseline heat input for each unit is the three highest years of weighted heat input from 2000-2004. The heat input is weighted by 1.0 for coal-fired units, 0.6 for oil-fired units and 0.4 for other affected units. The allowances are allocated based on the weighted heat input.
2. For units that went on-line starting in 2001, the model allocation rule uses a modified output-based approach with credit for CHP. The baseline heat input for these is based on electric output converted to heat input. The converted heat input is the average of the unit's three highest years of gross electric output for

the first five years of operation converted to heat input using a heat rate of 7,900 British Thermal Units per kilowatt-hour (Btu/kWh) for coal units and 6,675 Btu/kWh for other fuels. This converted heat input (not adjusted by fuel) is used to allocate allowances for the 2001 and later units from the same pool as the pre-2001 units.

The rules provide a modified baseline formulation for new CHP facilities (on-line starting in 2001), which is intended to credit the thermal as well as electric output. For boiler-based CHP facilities, the baseline heat input is calculated as the total thermal output of the boiler divided by 0.8. For combustion turbine-based CHP facilities, the baseline heat input is calculated as the electricity output of the combustion turbine converted to heat input at a rate of 3,413 Btu/kWh plus the recovered thermal output divided by 0.8<sup>1</sup>.

Once the baseline heat input is calculated for all of the affected units, the allowances are allocated based on each unit's share of the total heat input. The allowances available for allocation to these units are the portion of the state electric generating unit (EGU) budget minus the new source set-aside. This is 95 percent of the budget in 2009-2014 (when the set-aside is five percent per year) and 97 percent of the budget in 2015 and thereafter (when the set-aside is three percent).

The initial allocation is in 2006 for the years 2009-2014. For the allocation in 2009 and each allocation thereafter, the allowances are reallocated every year for the year six years later. However, each unit's baseline heat input, once established, does not change. Each unit's allocation will be reduced slightly, however, as new plants come into the system and receive a share of the available allowances.

There is a new source set-aside that provides allowances for new units until they have established their five years of baseline data. The set-aside for NO<sub>x</sub> is five percent per year for 2009 through 2014 and three percent in 2015 and thereafter.<sup>2</sup> A new unit can request allowances equal to its actual emissions from the prior year. The allocation may need to be prorated to stay within the set-aside if it is oversubscribed. As new plants establish their five years of baseline data, they begin to get allowances in the regular reallocation. Since five years of data are required for the baseline and the initial allocation in 2006 covers 2009-2014, most units that begin commercial operation after January 1, 2001 will not have enough data for the initial allocation in 2006 and will not be able to receive allowances in the regular allocation process until 2015.

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<sup>1</sup> The draft rule incorrectly multiplied the thermal output by 0.8 but that was corrected to a division in the final rule.

<sup>2</sup> The EPA model rule erroneously lists these dates as "2009-2013" and "2014 and thereafter" in section 96.x42 (c)(1). These dates should be corrected to "2009-2014" and "2015 and thereafter", independent of any other changes that are made.

## II. State Options for NO<sub>x</sub> Allocations

Several alternative options for NO<sub>x</sub> allocation are described below. States can pick one or more of the options to develop a program that suits their needs. These options are designed to encourage the use of clean technologies by promoting generation and end-use efficiency, renewables or lower emitting technologies. The options address variations on the EPA model, including:

- Fuel-neutral allocation
- Updating the allocation baseline each time allowances are reallocated
- Reduced allocation lead time to bring new units in more quickly
- Improved treatment of CHP
- Increased new source set-aside
- Energy efficiency/renewable set-aside
- Direct allocation to renewables/energy efficiency
- Output-based allocation
- Reduction of NO<sub>x</sub> cap

Each option is described below. Specific regulatory language is included in Attachments A and B. **This language has not been reviewed or approved by the EPA.**

### A. Fuel-neutral Allocation

The EPA model rule weights the heat input of pre-2001 units by fuel type, with coal getting a greater number of allowances and oil and gas units getting fewer allowances. For units that went on-line in 2001 or later, different factors are used to convert electric generation to heat input for coal and non-coal units.

The result of this design is generally to allocate more allowances to plants that have historically had higher emissions. States may wish to even the playing field by treating all units the same. Among other things, this allows the trading program market to do a more effective job of determining the most cost-effective compliance mix. This has generally been the approach taken for NO<sub>x</sub> allocation under the NO<sub>x</sub> SIP call.

### B. Updating the Allocation Baseline

In the EPA model rule, the initial allocation is in 2006 for the years 2009-2014 and the allowances are then redistributed each year for the year six years later, starting

in 2009 for compliance in 2015. However, the baseline heat input, once calculated, does not change. This means that older plants will continue to receive allowances based on their historic heat input, even if their operation declines over time or even if they are shut down. New plants, on the other hand, will always receive allowances based on their first few years of operation, which are often low operating years, even if they operate at a higher level in the future.

The language below updates the allocation baselines each time that the allowances are reallocated. The allowances are redistributed based on recent historic performance of the plant. This keeps the allocations in line with the actual operation of the plants. It phases out allocations to plants that are no longer running and increases allocations to new plants as they provide increased generation to consumers. This is consistent with most of the state rules for the NO<sub>x</sub> SIP Call. The baseline is recalculated each year in which the allocation is determined, referred to as the “allocation year.” The term “allocation year” should be added to the definitions sections (96.102 for annual NO<sub>x</sub> and 96.302 for seasonal NO<sub>x</sub>).

Updating can be applied to either an input- or output-based allocation system (see Section H below). Economic theory suggests that updating will create an incentive for a plant in a competitive electricity market to run more in order to qualify for more allowances in the next allocation period and that this results in higher potential emissions and higher compliance cost. However, this “generation subsidy” is small compared to other components of operating cost and other imperfections in the electricity market tend to limit this effect. Studies to date have not been able to identify this effect in actual updating programs.

### **C. Timing of Allocation**

The EPA model rule allocates allowances six years ahead of the year when they can be used. This creates a long regulatory lag for new units, which must wait five years to establish their baseline data and then six years for the first allocation to take effect. This means that new units must wait at least 11 years to become part of the regular allocation process. This can create hardships for new clean units and overburden the new source set-aside.

Many states in the NO<sub>x</sub> SIP call have chosen to shorten both of these timelines to bring new units into the program more quickly and make the program more responsive to changes in electricity markets. There are three possible components to this change: (1) shortening the time between the allocation year and the year of use, (2) varying the allocation period and (3) allowing new units to enter the main allocation pool more quickly.

1. *Shortening the time between the allocation year and the year of use*

Some states allocate allowances in the same year they are used, but a three year lead time is more common.<sup>3</sup> That is, allowances are allocated for use in the year three years after the allocation year. This reduces the regulatory lag for new plants.

2. *Varying the allocation period*

States can also vary the length of the allocation period. Rather than reallocate allowances every year, as in the model rule, allocations can be for a three-year period, for example. Thus, the allocations would be done every three years for a three-year period.

3. *Allowing new units to enter the main allocation pool more quickly*

The other related change that may be desirable is allowing new units to enter the main allocation program in fewer than five years in order to avoid overburdening the new source set-aside. In this case, their baseline would be based on fewer than five years of data. Several states have used this approach in the NO<sub>x</sub> SIP call. This approach is acceptable if the baseline data are periodically updated, as described above. It would not be a good idea if the initial period is used as a permanent baseline, however, since the first few years of operation are often not typical of later operation. In addition, as the new plants continue to operate, their baseline would be updated to include the full five years of data.

## **D. Improved Treatment of Combined Heat and Power (CHP)**

CHP is the sequential generation of electric and thermal energy from a common energy source. CHP is recognized as a highly efficient and environmentally beneficial technology. It has been specifically singled out for encouragement by EPA and the Department of Energy, which have committed to doubling U.S. CHP capacity between 1998 and 2010<sup>4</sup>.

CHP's higher efficiency and lower emissions can be recognized by including its thermal output in the allocation calculation. The allocation procedure in the EPA model rule provides credit for CHP facilities that went on-line starting in 2001. However, the approach does not seem consistent with the rest of the rule and with prior examples of allocation for CHP. The more common approach is to provide the normal allocation for electric output and then add an allocation for the equivalent value of the thermal output.

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<sup>3</sup> Section 51.123(aa)(iii)(c) of CAIR requires a four year lead time for ozone season NO<sub>x</sub> allocations after 2012, though the EPA has approved shorter lead times in the NO<sub>x</sub> SIP call.

<sup>4</sup> <http://uschpa.admgt.com/CHPagenda.htm>

In the EPA model rule, however, the converted heat input for CHP facilities with a boiler/steam turbine is the total steam output of the boiler divided by 0.8. This is a reasonable estimate of the actual heat input, but does not account for the inefficiency of conventional electricity generation. In other words, it basically treats the CHP boiler as a simple steam generator.

For combustion turbine-based CHP facilities, the model rule calculates converted heat input as the electric output of the combustion turbine times 3,413 Btu/kWh plus the recovered thermal energy divided by 0.8. This means that electricity is being converted to heat input for the allocation calculation at 100 percent efficiency.

A more consistent approach would be to convert the electricity to equivalent heat input using the same heat rate factors as the model rule applies for non-CHP facilities and then add the equivalent heat input for the thermal output as done in the EPA model rule. The suggested language in the attachments does this. This language could also be applied to all CHP facilities, not just post-2001 facilities, in order to encourage the continued maximum use of existing CHP.

During the NO<sub>x</sub> SIP call development process, EPA convened a work group on output-based allocation. This group developed extensive guidance on allowance allocation to CHP facilities in its report ([www.epa.gov/airmarkets/fednox/workgrp.html](http://www.epa.gov/airmarkets/fednox/workgrp.html)), which may also be of interest to states applying this option. The output-based allocation language discussed below (see Section H) also includes credit for the thermal output of CHP facilities.

## **E. Larger New Source Set-aside**

The EPA model rule establishes a new source set-aside to provide allowances for new units before they are incorporated into the main allocation program. The new source set-aside is five percent per year for 2009-2014 and three percent in 2015 and thereafter. However, due to the requirement for five years of baseline data and the six year lag between allocation and first use of allowances, units that went on-line after 2001 will not start to receive regular allowances until at least 2015 and will have to rely on the new source set-aside until then.

In some states, there has been a large influx of new plants in recent years, such that five percent will not be enough to provide allowances for all new plants during this period. Changing the timing of the allocation system is one response to this problem, as described above. Another alternative is to expand the new source set-aside to ensure an adequate supply of allowances. Any unused set-aside allowances are redistributed to existing units, so there is no downside if the larger set-aside is not fully subscribed.

This expansion of the new source set-aside can be done simply by changing the size of the set-aside in section 96.x42 (c)(1). The size of the remaining main allocation pool must be adjusted in sections 96.x42 (b)(1) and (e) to total 100 percent when combined with the new source set-aside plus any other set-asides. Also note that the incorrect dates in the EPA model rule 96.x42 (c)(1) should be corrected to “2009-2014” and “2015 and thereafter.”

## **F. Energy Efficiency/Renewable Allowance Set-asides**

An energy efficiency/renewable energy (EE/RE) set-aside creates a separate pool of allowances that the state can allocate to EE/RE projects to provide incentives for their growth. The EE/RE projects can sell the allowances, providing them with an economic benefit for their zero emissions characteristics and a market-based incentive. States have successfully applied such programs in the NO<sub>x</sub> SIP call, setting aside anywhere from three percent to five percent of the allowance pool for the set-aside. States can determine how big to make the set-aside based on their needs. The number of allowances remaining available for the main allocation must then be adjusted in sections 96.x42 (b)(1) and (e) to account for allowances distributed in this set-aside. Unused allowances from the set-aside are usually redistributed to the sources in the regular program.

The state must define what types of projects will be eligible for this set-aside. The definition can address the type of project, the size and the vintage. States often include only new EE/RE projects, possibly starting at the CAIR promulgation date or January 1, 2001 to be consistent with the definition of other new affected units in the model rule as in the example below. Typical definitions that would be added to sections 96.x02 could be:

*Renewable energy unit* means an electric generator that began commercial operation after January 1, 2001 and is powered by wind, solar, ocean thermal, wave, geothermal or hydroelectric energy.

*Energy efficiency unit* means an end use energy efficiency project implemented after January 1, 2001 that reduces electricity consumption according to an energy efficiency verification protocol accepted by the State.

Some states include biomass, although others do not since biomass projects do have NO<sub>x</sub> emissions. Several states have included CHP facilities smaller than 25 megawatts (MW) in the EE/RE set-aside. A few states have allowed very efficient fossil-fueled plants in the main allocation program to receive part of the efficiency set-aside in a second tier of allocations. This can create an incentive for large CHP or for advanced clean coal technologies such as Integrated Gasification Combined Cycle (IGCC). Indiana has implemented such a program for its NO<sub>x</sub> SIP call allocation (326 IAC 10-4-9(e)(1) at [www.in.gov/legislative/iac/T03260/A00100.PDF](http://www.in.gov/legislative/iac/T03260/A00100.PDF)).

The recommended language in the attachments is parallel to the new source set-aside in the model rule and establishes an EE/RE set-aside. This example allocates allowances in the set-aside based on the electricity generated (for renewables) or electric consumption reduced (for energy efficiency) times a pounds-of-NO<sub>x</sub>-per-megawatt-hour (MWh) factor. This factor is based on the nominal CAIR average NO<sub>x</sub> emission factor times an average heat rate of 10,000 Btu/kWh to derive an output-based factor (pounds per megawatt-hour, or lb/MWh). Other allocation methods can be applied if desired. EPA has developed several guidance documents on the allocation of the EE/RE set-aside (available from STAPPA/ALAPCO).

## **G. Direct Allocation to Renewables/Energy Efficiency**

An EE/RE set-aside is the primary alternative for allocating allowances to energy efficiency and renewables projects under an input-based allocation program since these projects do not have any heat input upon which to base an allocation. However, allowances can be directly allocated to renewables, energy efficiency and other zero-emitting generators under an output-based allocation.

Like an EE/RE set-aside, this direct allocation creates an incentive for clean energy options. In this case, however, the zero-emitting technologies receive allowances directly in the primary allocation program rather than through a set-aside. The generation of the zero-emitting generator (or the reduced electricity consumption – negawatthours – of the efficiency project) is included in the allocation pool along with the generation from emitting sources, and the zero-emitting generators receive allowances in proportion to their generation. This can be simpler in some ways than a set-aside program. For one thing, it avoids the issue of how big to make the set-aside, since zero-emitting units simply receive allowances proportional to their generation. A direct allocation can be done under a pure output-based allocation, as discussed below, or under a hybrid program like the model rule. In the latter case, the generation of zero-emitting generators would be converted to heat input just like the generation of new fossil fuel plants, to be included in the allowance allocation.

If allowances are allocated to non-emitting generators, a new definition is required for the units that receive allowances since they are not “CAIR NO<sub>x</sub> units” as used elsewhere in the rule, i.e., they do not have emissions and compliance obligations. In the language proposed here, the term “covered units” is used to identify units, including non-emitting units, that receive allowances.

If states wish to allocate allowances to non-emitting generators, they will need to determine which sources to include. Options include: all generators (including nuclear and hydro), all renewables, all non-hydro renewables, new renewables or some other subset of generators. The definition could also include a time element, i.e., include only non-emitting generators that began operation after a certain time, such as January 1,

2001, to be consistent with the “new unit” definition under CAIR. One possible definition that would be added to section 96.x02 is:

*Covered unit* means a CAIR NO<sub>x</sub> unit, or a non-emitting electric generator with a nameplate capacity greater than 25 MW that began commercial operation after January 1, 2001 and is powered by wind, solar, ocean thermal, wave, geothermal or hydroelectric energy, or an end-use energy efficiency project implemented after January 1, 2001 that reduces electricity consumption by more than 140,000 MWh per year according to an energy efficiency verification protocol accepted by the State.

This definition focuses on energy efficiency and renewables and limits the credit to projects implemented on or after January 1, 2001. The MWh threshold for energy efficiency projects limits credit to energy efficiency projects comparable to a 25 MW generator. States could implement many variations of this definition to include the type, size and vintage of generators they wish to encourage.

States may also choose to address renewables through an EE/RE set-aside and simply use an output-based allocation to promote efficiency in the conventional CAIR-affected units. In this case, the additional “covered unit” definition is not required. But, even in an output-based program, an EE/RE set-aside can also provide allowances to renewable and energy efficiency projects that are too small to receive allowances directly.

## **H. Output-based Allocation**

The EPA model rule allocates allowances to pre-2001 units based on historical heat input. This rewards plants that consume more fuel and ultimately rewards those that are *less* efficient. Many analysts and regulators have suggested that it is better policy to allocate allowances based on electric and (in the case of CHP) thermal output. Under an output-based regulation, the allocation is proportional to electricity (and thermal output) rather than heat input. Efficient plants are thereby rewarded. Increased efficiency is a form of pollution prevention, which reduces emissions of all pollutants, including non-regulated emissions such as carbon dioxide (CO<sub>2</sub>).

In a program with a one-time, permanent allocation, like the model rule, the incentive provided by output-based allocation will affect only new plants entering the program. In an allocation system updated periodically, an output-based allocation provides efficiency incentives to all plants. As discussed above, non-emitting generators can be directly included in an output-based allocation system. A fuel-neutral, output-based approach is also simpler than the EPA model rule because all vintages and all fuels are treated the same.

A complete output-based version of the model rule is included as Attachment B. In addition to the output-based language, it includes the options discussed in the preceding sections (updating, fuel neutral, CHP, EE/RE set-aside, etc.) which states can include if desired.

During the NO<sub>x</sub> SIP Call development, EPA sponsored a work group to assist states wishing to adopt output-based NO<sub>x</sub> allocations, and EPA states in the CAIR preamble that it believes this is a viable approach worth considering for CAIR. Documents from meetings of this group and the resulting guidance report ([www.epa.gov/airmarkets/fednox/workgrp.html](http://www.epa.gov/airmarkets/fednox/workgrp.html)) together with additional resources such as the EPA-sponsored report, "Output-Based Regulations: A Handbook for Air Regulators" ([www.epa.gov/cleanenergy/pdf/output\\_rpt.pdf](http://www.epa.gov/cleanenergy/pdf/output_rpt.pdf)), can help states, should they need additional information related to output-based allocation.

## **I. Allowance Allocation to Reduce the NO<sub>x</sub> Cap**

Some states have discussed the option of reducing the emission caps under CAIR in order to allow them to meet their attainment requirements. There are several ways that this could be done. For NO<sub>x</sub>, the states could allocate a percentage of the NO<sub>x</sub> budget to a "Public Health Set-aside," which would be immediately retired. This would reduce the size of the allowance pool available for emissions compliance and may fall within the allocation flexibility afforded by the EPA.<sup>5</sup> Language for such a set-aside is provided in the attachments (see Section 96.x42(e)). In this section, "X percent" and "Y percent" refer to the amount of allowances removed from the initial CAIR allowance pool in 2009 through 2014 and 2015 and thereafter respectively. The amount of allowances available for the main allocation must be adjusted in sections 96.x42 (b)(1) and (e) to account for this reduction. EPA has not indicated whether it would approve this type of approach.

Some states have expressed a preference to implement this additional reduction by requiring affected units to retire multiple allowances for each ton of actual emissions. They believe that this is more likely to result in local emission reductions by increasing the cost of emissions in the state, even if the sources purchase allowances from outside the state. Due to the restrictions established by EPA on changes to the non-allocation sections of the CAIR model rule, it will probably be more straightforward for states that wish to take this approach to require additional allowance reductions through a separate state regulation. Connecticut has established such a regulation to require additional reductions of Title IV SO<sub>2</sub> allowances (RCSA 22a-174-19a)<sup>6</sup>. A similar approach could be applicable for both the NO<sub>x</sub> and SO<sub>2</sub> programs under CAIR. EPA has not reviewed

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<sup>5</sup> This approach will not work for SO<sub>2</sub> since the SO<sub>2</sub> program relies on the previously allocated Title IV allowances. An alternative approach would be to change the retirement ratios for SO<sub>2</sub> and NO<sub>x</sub>, though the EPA has not indicated whether it would approve this.

<sup>6</sup> <http://dep.state.ct.us/air2/regs/mainregs/sec19a.pdf>.

such regulations nor indicated whether it would approve this type of state regulation affecting allowance retirement rates.

### **III. Integrated Allocation Language**

As an aid to implementation, Attachments A and B provide complete sets of NO<sub>x</sub> allocation language. States can select options from these allocation alternatives to suit their own needs and interests. Attachment A includes variations on the EPA model rule with its original input-based allocation approach. Attachment B provides an output-based approach. Each has an energy-efficiency/renewable set-aside, fuel-neutral updating, revised CHP treatment and the “Public Health Set-aside.” States can start with these versions and change or remove options as appropriate. Both attachments show the original EPA model rule and alternative language. **This alternative language has not been reviewed or approved by the EPA.**



| EPA Model Rule   | Revised Text  | Comments  |
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| <p>(b)(1) By October 31, 2009 and October 31 of each year thereafter, the permitting authority will submit to the Administrator the CAIR NO<sub>x</sub> allowance allocations, in a format prescribed by the Administrator and in accordance with § 96.x42(a) and (b), for the control period in the sixth year after the year of the applicable deadline for submission under this paragraph.</p> <p><i>Remainder of section unchanged.</i></p> <p><b>§ 96.x42 CAIR NO<sub>x</sub> allowance allocations.</b></p> <p>(a)(1) The baseline heat input (in mmBtu) used with respect to CAIR NO<sub>x</sub> allowance allocations under paragraph (b) of this section for each CAIR NO<sub>x</sub> unit will be:</p> <p>(i) For units commencing operation before January 1, 2001 the average of the 3 highest amounts of the unit's adjusted control period heat input for 2000 through 2004, with the adjusted control period heat input for each year calculated as follows:</p> <p>(A) If the unit is coal-fired during the year, the unit's control period heat input for such year is multiplied by 100 percent;</p> <p>(B) If the unit is oil-fired during the year, the unit's control period heat input for such year is multiplied by 60 percent; and</p> <p>(C) If the unit is not subject to paragraph (a)(1)(i)(A) or (B) of this section, the unit's control period heat input for such year is multiplied by 40 percent.</p> <p>(ii) For units commencing operation on or after January 1, 2001 and operating each calendar year during a period of 5 or more consecutive calendar years, the average of the</p> | <p>(b)(1) By October 31, 2008 and October 31 of each year thereafter, the permitting authority will submit to the Administrator the CAIR NO<sub>x</sub> allowance allocations, in a format prescribed by the Administrator and in accordance with § 96.x42(a) and (b), for the control period in the fourth year after the year of the applicable deadline for submission under this paragraph.</p> <p><b>§ 96.x42 CAIR NO<sub>x</sub> allowance allocations.</b></p> <p>(a)(1) The baseline heat input (in mmBtu) used with respect to CAIR NO<sub>x</sub> allowance allocations under paragraph (b) of this section for each CAIR NO<sub>x</sub> unit will be:</p> <p>(i) For units commencing operation before January 1, 2001 the average of the 3 highest amounts of the unit's control period heat input for <b>the five years prior to the allocation year.</b></p> <p>(ii) For <b>covered</b> units commencing operation on or after January 1, 2001:</p> | <p>Increases frequency of allocation to bring new unit into main allocation program sooner.</p> <p>Updates heat input baseline to most recent 5 years.</p> <p>Removes fuel weighting.</p> <p>Use "covered unit" to include renewables and energy efficiency in direct</p> |

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| <p>3 highest amounts of the unit's total converted control period heat input over the first such 5 years.</p> <p>(2)(i) A unit's control period heat input, and a unit's status as coal-fired or oil-fired, for a calendar year under paragraph (a)(1)(i) of this section, and a unit's total tons of NO<sub>x</sub> emissions during a calendar year under paragraph (c)(3) of this section, will be determined in accordance with part 75 of this chapter, to the extent the unit was otherwise subject to the requirements of part 75 of this chapter for the year, or will be based on the best available data reported to the permitting authority for the unit, to the extent the unit was not otherwise subject to the requirements of part 75 of this chapter for the year.</p> <p>(ii) A unit's converted control period heat input for a calendar year specified under paragraph (a)(1)(ii) of this section equals:</p> <p>(A) Except as provided in paragraph (a)(2)(ii)(B) or (C) of this section, the control period gross electrical output of the generator or generators served by the unit multiplied by 7,900 Btu/kWh, if the unit is coal-fired for the year, or 6,675 Btu/kWh, if the unit is not coal-fired for the year, and divided by 1,000,000 Btu/ mmBtu, provided that if a generator is served by 2 or more units, then the gross electrical output of the generator will be attributed to each unit in proportion to the unit's share of the total control period heat input of such units for the year;</p> | <p>(A) For units operating each calendar year during a period of 5 or more consecutive calendar years, the average of the 3 highest amounts of the unit's total converted control period heat input over the most recent 5 years prior to the allocation year.</p> <p>(B) For units operating each calendar year during a period of at least 3 but less than 5 consecutive calendar years, the average of the 3 highest amounts of the unit's total converted control period heat input over the consecutive years of operation.</p> <p>(2) (i) A unit's converted control period heat input for a calendar year specified under paragraph (a)(1)(ii) of this section equals:</p> <p>(A) Except as provided in paragraph (a)(2)(i)(B) of this section, the control period gross electrical output of the generator or generators served by the unit multiplied by 7,900 Btu/kWh and divided by 1,000,000 Btu/mmBtu, provided that if a generator is served by 2 or more units, then the gross electrical output of the generator will be attributed to each unit in proportion to the unit's share of the total control period heat input of such units for the year.</p> | <p>allocation.</p> <p>Updates heat input baseline for new units.</p> <p>Uses shorter baseline period for new units to reduce lag time for inclusion in main allocation program.</p> <p>Only needed if fuel-weighting is included.</p> <p>Removes fuel-weighting, uses one heat rate for all new units.</p> |

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| <p>(B) For a unit that is a boiler and has equipment used to produce electricity and useful thermal energy for industrial, commercial, heating, or cooling purposes through the sequential use of energy, the total heat energy (in Btu) of the steam produced by the boiler during the control period, divided by 0.8 and by 1,000,000 Btu/mmBtu; or</p> <p>(C) For a unit that is a combustion turbine and has equipment used to produce electricity and useful thermal energy for industrial, commercial, heating, or cooling purposes through the sequential use of energy, the control period gross electrical output of the enclosed device comprising the compressor, combustor, and turbine multiplied by 3,414 Btu/kWh, plus the total heat energy (in Btu) of the steam produced by any associated heat recovery steam generator during the control period divided by 0.8, and with the sum divided by 1,000,000 Btu/mmBtu.</p> <p>(b)(1) For each control period in 2009 and thereafter, the permitting authority will allocate to all CAIR NO<sub>x</sub> units in the State that have a baseline heat input (as determined under paragraph (a) of this section) a total amount of CAIR NO<sub>x</sub> allowances equal to 95 percent for a control period during 2009 through 2014, and 97 percent for a control period during 2015 and thereafter, of the tons of NO<sub>x</sub> emissions in the State trading budget under § 96.x40 (except as provided in paragraph (d) of this section).</p> <p>(2) The permitting authority will allocate CAIR NO<sub>x</sub> allowances to each CAIR NO<sub>x</sub> unit under paragraph (b)(1) of this section in an amount determined by multiplying the total amount of CAIR NO<sub>x</sub> allowances allocated under paragraph (b)(1) of this section by the ratio of the baseline heat input of such CAIR NO<sub>x</sub> unit to the total amount of baseline heat input of all such CAIR NO<sub>x</sub> units in the State and rounding to the nearest whole allowance as appropriate.</p> | <p>(B) For a unit that has equipment used to produce electricity and useful thermal energy for industrial, commercial, heating, or cooling purposes through the sequential use of energy, the control period gross electrical output of the unit multiplied by 7,900 Btu/kWh plus the useful thermal energy (in Btu) produced during the control period divided by 0.8, and with the sum divided by 1,000,000 Btu/mmBtu.</p> <p>(b)(1) For each control period in 2009 and thereafter, the permitting authority will allocate to all CAIR NO<sub>x</sub> units in the State that have a baseline heat input (as determined under paragraph (a) of this section) a total amount of CAIR NO<sub>x</sub> allowances equal to 95 percent for a control period during 2009 through 2014, and 97 percent for a control period during 2015 and thereafter, of the tons of NO<sub>x</sub> emissions in the State trading budget under § 96.x40 (except as provided in paragraph (d) of this section).</p> <p>(2) The permitting authority will allocate CAIR NO<sub>x</sub> allowances to each CAIR NO<sub>x</sub> unit under paragraph (b)(1) of this section in an amount determined by multiplying the total amount of CAIR NO<sub>x</sub> allowances allocated under paragraph (b)(1) of this section by the ratio of the baseline heat input of such CAIR NO<sub>x</sub> unit to the total amount of baseline heat input of all such CAIR NO<sub>x</sub> units in the State and rounding to the nearest whole allowance as appropriate.</p> | <p>Uses the same, consistent CHP allocation methodology for all technologies, all fuels. Consistent with allocation approach for non-CHP units.</p> <p>Adjust these values to account for changes in new source set-aside or addition of other set-asides so that total is 100 percent.</p> |

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| <p>(c) For each control period in 2009 and thereafter, the permitting authority will allocate CAIR NO<sub>x</sub> allowances to CAIR NO<sub>x</sub> units in the State that commenced operation on or after January 1, 2001 and do not yet have a baseline heat input (as determined under paragraph (a) of this section), in accordance with the following procedures:</p> <p>(1) The permitting authority will establish a separate new unit set-aside for each control period. Each new unit set-aside will be allocated CAIR NO<sub>x</sub> allowances equal to 5 percent for a control period in 2009 through 2013, and 3 percent for a control period in 2014 and thereafter, of the amount of tons of NO<sub>x</sub> emissions in the State trading budget under § 96.x40.</p> <p>(2) The CAIR designated representative of such a CAIR NO<sub>x</sub> unit may submit to the permitting authority a request, in a format specified by the permitting authority, to be allocated CAIR NO<sub>x</sub> allowances, starting with the later of the control period in 2009 or the first control period after the control period in which the CAIR NO<sub>x</sub> unit commences commercial operation and until the first control period for which the unit is allocated CAIR NO<sub>x</sub> allowances under paragraph (b) of this section. The CAIR NO<sub>x</sub> allowance allocation request must be submitted on or before July 1 of the first control period for which the CAIR NO<sub>x</sub> allowances are requested and after the date on which the CAIR NO<sub>x</sub> unit commences commercial operation.</p> <p>(3) In a CAIR NO<sub>x</sub> allowance allocation request under paragraph (c)(2) of this section, the CAIR designated representative may request for a control period CAIR NO<sub>x</sub> allowances in an amount not exceeding the CAIR NO<sub>x</sub> unit's total tons of NO<sub>x</sub> emissions during the calendar year immediately before such control period.</p> <p>(4) The permitting authority will review each CAIR NO<sub>x</sub> allowance allocation request under paragraph (c)(2) of</p> | <p>(c) For each control period in 2009 and thereafter, the permitting authority will allocate CAIR NO<sub>x</sub> allowances to CAIR NO<sub>x</sub> units in the State that commenced operation on or after January 1, 2001 and do not yet have a baseline heat input (as determined under paragraph (a) of this section), in accordance with the following procedures:</p> <p>(1) The permitting authority will establish a separate new unit set-aside for each control period. Each new unit set-aside will be allocated CAIR NO<sub>x</sub> allowances equal to 5 percent for a control period in 2009 through 2014, and 3 percent for a control period in 2015 and thereafter, of the amount of tons of NO<sub>x</sub> emissions in the State trading budget under § 96.x40.</p> <p>(2) The CAIR designated representative of such a CAIR NO<sub>x</sub> unit may submit to the permitting authority a request, in a format specified by the permitting authority, to be allocated CAIR NO<sub>x</sub> allowances, starting with the later of the control period in 2009 or the first control period after the control period in which the CAIR NO<sub>x</sub> unit commences commercial operation and until the first control period for which the unit is allocated CAIR NO<sub>x</sub> allowances under paragraph (b) of this section. The CAIR NO<sub>x</sub> allowance allocation request must be submitted on or before July 1 of the first control period for which the CAIR NO<sub>x</sub> allowances are requested and after the date on which the CAIR NO<sub>x</sub> unit commences commercial operation.</p> <p>(3) In a CAIR NO<sub>x</sub> allowance allocation request under paragraph (c)(2) of this section, the CAIR designated representative may request for a control period CAIR NO<sub>x</sub> allowances in an amount not exceeding the CAIR NO<sub>x</sub> unit's total tons of NO<sub>x</sub> emissions during the calendar year immediately before such control period.</p> <p>(4) The permitting authority will review each CAIR NO<sub>x</sub> allowance allocation request under paragraph (c)(2) of</p> | <p>States can change the set-aside amounts. Adjust values in 96.x41 (b)(1) so that the total is 100 percent.</p> <p>Correct erroneous dates in EPA model rule.</p> |

| <b>EPA Model Rule</b>  | <b>Revised Text</b>  | <b>Comments</b> |
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| <p>this section and will allocate CAIR NO<sub>x</sub> allowances for each control period pursuant to such request as follows:</p> <p>(i) The permitting authority will accept an allowance allocation request only if the request meets, or is adjusted by the permitting authority as necessary to meet, the requirements of paragraphs (c)(2) and (3) of this section.</p> <p>(ii) On or after July 1 of the control period, the permitting authority will determine the sum of the CAIR NO<sub>x</sub> allowances requested (as adjusted under paragraph (c)(4)(i) of this section) in all allowance allocation requests accepted under paragraph (c)(4)(i) of this section for the control period.</p> <p>(iii) If the amount of CAIR NO<sub>x</sub> allowances in the new unit set-aside for the control period is greater than or equal to the sum under paragraph (c)(4)(ii) of this section, then the permitting authority will allocate the amount of CAIR NO<sub>x</sub> allowances requested (as adjusted under paragraph (c)(4)(i) of this section) to each CAIR NO<sub>x</sub> unit covered by an allowance allocation request accepted under paragraph (c)(4)(i) of this section.</p> <p>(iv) If the amount of CAIR NO<sub>x</sub> allowances in the new unit set-aside for the control period is less than the sum under paragraph (c)(4)(ii) of this section, then the permitting authority will allocate to each CAIR NO<sub>x</sub> unit covered by an allowance allocation request accepted under paragraph (c)(4)(i) of this section the amount of the CAIR NO<sub>x</sub> allowances requested (as adjusted under paragraph (c)(4)(i) of this section), multiplied by the amount of CAIR NO<sub>x</sub> allowances in the new unit set-aside for the control period, divided by the sum determined under paragraph (c)(4)(ii) of this section, and rounded to the nearest whole allowance as appropriate.</p> <p>(v) The permitting authority will notify each CAIR designated representative that submitted an allowance</p> | <p>this section and will allocate CAIR NO<sub>x</sub> allowances for each control period pursuant to such request as follows:</p> <p>(i) The permitting authority will accept an allowance allocation request only if the request meets, or is adjusted by the permitting authority as necessary to meet, the requirements of paragraphs (c)(2) and (3) of this section.</p> <p>(ii) On or after July 1 of the control period, the permitting authority will determine the sum of the CAIR NO<sub>x</sub> allowances requested (as adjusted under paragraph (c)(4)(i) of this section) in all allowance allocation requests accepted under paragraph (c)(4)(i) of this section for the control period.</p> <p>(iii) If the amount of CAIR NO<sub>x</sub> allowances in the new unit set-aside for the control period is greater than or equal to the sum under paragraph (c)(4)(ii) of this section, then the permitting authority will allocate the amount of CAIR NO<sub>x</sub> allowances requested (as adjusted under paragraph (c)(4)(i) of this section) to each CAIR NO<sub>x</sub> unit covered by an allowance allocation request accepted under paragraph (c)(4)(i) of this section.</p> <p>(iv) If the amount of CAIR NO<sub>x</sub> allowances in the new unit set-aside for the control period is less than the sum under paragraph (c)(4)(ii) of this section, then the permitting authority will allocate to each CAIR NO<sub>x</sub> unit covered by an allowance allocation request accepted under paragraph (c)(4)(i) of this section the amount of the CAIR NO<sub>x</sub> allowances requested (as adjusted under paragraph (c)(4)(i) of this section), multiplied by the amount of CAIR NO<sub>x</sub> allowances in the new unit set-aside for the control period, divided by the sum determined under paragraph (c)(4)(ii) of this section, and rounded to the nearest whole allowance as appropriate.</p> <p>(v) The permitting authority will notify each CAIR designated representative that submitted an allowance</p> |                 |

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| <p>allocation request of the amount of CAIR NO<sub>x</sub> allowances (if any) allocated for the control period to the CAIR NO<sub>x</sub> unit covered by the request.</p> | <p>allocation request of the amount of CAIR NO<sub>x</sub> allowances (if any) allocated for the control period to the CAIR NO<sub>x</sub> unit covered by the request.</p> <p>(d) For each control period in 2009 and thereafter, the permitting authority will allocate CAIR NO<sub>x</sub> allowances to qualifying energy efficiency and renewable energy units in the State, in accordance with the following procedures:</p> <p>(1) The permitting authority will establish a separate energy efficiency/renewable energy set-aside for each control period. Each new energy efficiency/renewable set-aside will be allocated CAIR NO<sub>x</sub> allowances equal to 5 percent of the amount of tons of NO<sub>x</sub> emissions in the State trading budget under § 96.x40.</p> <p>(2) The CAIR designated representative of such an energy efficiency/renewable energy unit may submit to the permitting authority a request, in a format specified by the permitting authority, to be allocated CAIR NO<sub>x</sub> allowances, starting with the later of the control period in 2009 or the first control period after the control period in which the energy efficiency or renewable unit commences commercial operation. The CAIR NO<sub>x</sub> allowance allocation request must be submitted on or before July 1 of the first control period for which the CAIR NO<sub>x</sub> allowances are requested and after the date on which the energy efficiency or renewable unit commences commercial operation.</p> <p>(3) In a CAIR NO<sub>x</sub> allowance allocation request under paragraph (d)(2) of this section, the CAIR designated representative may request for a control period CAIR NO<sub>x</sub> allowances in an amount not exceeding:</p> <p>i. For a renewable energy unit, the control period gross electrical output of the facility during the calendar year immediately before such control period multiplied by 1.5 lb/MWh for the years 2009-2014, or 1.25 lb/MWh for 2015</p> | <p>Energy efficiency/renewable energy set-aside.</p> <p>States can determine size of set-aside. Adjust values in section (b)(1) so that total is 100 percent.</p> <p>Allocation based on nominal cap levels and average heat rate (10,000 Btu/kWh). Different</p> |

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|                | <p>and thereafter and divided by 2000 and rounded to nearest whole allowance as appropriate.</p> <p>ii. For an energy efficiency project, the control period verified reduction in electricity consumption during the calendar year immediately before such control period multiplied by 1.5 lb/MWh for the years 2009-2014, or 1.25 lb/MWh for 2015 and thereafter and divided by 2000 and rounded to the nearest whole allowance as appropriate.</p> <p>(4) The permitting authority will review each CAIR NO<sub>x</sub> allowance allocation request under paragraph (d)(2) of this section and will allocate CAIR NO<sub>x</sub> allowances for each control period pursuant to such request as follows:</p> <p>(i) The permitting authority will accept an allowance allocation request only if the request meets, or is adjusted by the permitting authority as necessary to meet, the requirements of paragraphs (d)(2) and (3) of this section.</p> <p>(ii) On or after July 1 of the control period, the permitting authority will determine the sum of the CAIR NO<sub>x</sub> allowances requested (as adjusted under paragraph (d)(4)(i) of this section) in all allowance allocation requests accepted under paragraph (d)(4)(i) of this section for the control period.</p> <p>(iii) If the amount of CAIR NO<sub>x</sub> allowances in the energy efficiency/renewable set-aside for the control period is greater than or equal to the sum under paragraph (d)(4)(ii) of this section, then the permitting authority will allocate the amount of CAIR NO<sub>x</sub> allowances requested (as adjusted under paragraph (d)(4)(i) of this section) to each CAIR NO<sub>x</sub> unit covered by an allowance allocation request accepted under paragraph (d)(4)(i) of this section.</p> <p>(iv) If the amount of CAIR NO<sub>x</sub> allowances in the new unit set-aside for the control period is less than the sum under paragraph (d)(4)(ii) of this section, then the permitting</p> | <p>allocation approaches can be used.</p> <p>Allocation based on nominal cap levels and average heat rate (10,000 Btu/kWh). Different allocation approaches can be used.</p> |

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| <p>(d) If, after completion of the procedures under paragraph (c)(4) of this section for a control period, any unallocated CAIR NO<sub>x</sub> allowances remain in the new unit set-aside for the control period, the permitting authority will allocate to each CAIR NO<sub>x</sub> unit that was allocated CAIR NO<sub>x</sub> allowances under paragraph (b) of this section an amount of CAIR NO<sub>x</sub> allowances equal to the total amount of such remaining unallocated CAIR NO<sub>x</sub> allowances, multiplied by the unit's allocation under paragraph (b) of this section,</p> | <p>authority will allocate to each CAIR NO<sub>x</sub> unit covered by an allowance allocation request accepted under paragraph (d)(4)(i) of this section the amount of the CAIR NO<sub>x</sub> allowances requested (as adjusted under paragraph (d)(4)(i) of this section), multiplied by the amount of CAIR NO<sub>x</sub> allowances in the new unit set-aside for the control period, divided by the sum determined under paragraph (d)(4)(ii) of this section, and rounded to the nearest whole allowance as appropriate.</p> <p>(v) The permitting authority will notify each CAIR designated representative that submitted an allowance allocation request of the amount of CAIR NO<sub>x</sub> allowances (if any) allocated for the control period to the energy efficiency/renewable unit covered by the request.</p> <p>(e) For each control period in 2009 and thereafter, the permitting authority will allocate CAIR NO<sub>x</sub> allowances to a Public Health Set-aside. The allowances in the Public Health Set-aside will be permanently retired and will not be available for compliance for any affected unit.</p> <p>(1) The permitting authority will establish a Public Health Set-aside for each control period. Each Public Health Set-aside will be allocated CAIR NO<sub>x</sub> allowances equal to X percent for a control period in 2009 through 2014, and Y percent for a control period in 2015 and thereafter, of the amount of tons of NO<sub>x</sub> emissions in the State trading budget under § 96.x40.</p> <p>(f) If, after completion of the procedures under paragraphs (c)(4) and (d)(4) of this section for a control period, any unallocated CAIR NO<sub>x</sub> allowances remain in the new unit or energy efficiency/renewable set-aside for the control period, the permitting authority will allocate to each CAIR NO<sub>x</sub> unit that was allocated CAIR NO<sub>x</sub> allowances under paragraph (b) of this section an amount of CAIR NO<sub>x</sub> allowances equal to the total amount of such remaining unallocated CAIR NO<sub>x</sub> allowances, multiplied by the unit's</p> | <p>"Public Health Set-aside" to reduce cap level.</p> <p>States can determine size of set-aside. Adjust remainder values in section (b)(1) so that total is 100 percent.</p> |

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| <p>divided by 95 percent for a control period during 2009 through 2014, and 97 percent for a control period during 2015 and thereafter, of the amount of tons of NO<sub>x</sub> emissions in the State trading budget under § 96.x40, and rounded to the nearest whole allowance as appropriate.</p> | <p>allocation under paragraph (b) of this section, divided by <del>95 percent for a control period during 2009 through 2014,</del> and <del>97 percent for a control period during 2015 and</del> thereafter, of the amount of tons of NO<sub>x</sub> emissions in the State trading budget under § 96.x40, and rounded to the nearest whole allowance as appropriate.</p> | <p>Set values equal to values in section 96.x41 (b)(1).</p> |



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| <p>(b)(1) By October 31, 2009 and October 31 of each year thereafter, the permitting authority will submit to the Administrator the CAIR NO<sub>x</sub> allowance allocations, in a format prescribed by the Administrator and in accordance with § 96.x42(a) and (b), for the control period in the sixth year after the year of the applicable deadline for submission under this paragraph.</p> <p><i>Remainder of section unchanged.</i></p> <p><b>§ 96.x42 CAIR NO<sub>x</sub> allowance allocations.</b></p> <p>(a)(1) The baseline heat input (in mmBtu) used with respect to CAIR NO<sub>x</sub> allowance allocations under paragraph (b) of this section for each CAIR NO<sub>x</sub> unit will be:</p> <p>(i) For units commencing operation before January 1, 2001 the average of the 3 highest amounts of the unit's adjusted control period heat input for 2000 through 2004, with the adjusted control period heat input for each year calculated as follows:</p> <p>(A) If the unit is coal-fired during the year, the unit's control period heat input for such year is multiplied by 100 percent;</p> <p>(B) If the unit is oil-fired during the year, the unit's control period heat input for such year is multiplied by 60 percent; and</p> <p>(C) If the unit is not subject to paragraph (a)(1)(i)(A) or (B) of this section, the unit's control period heat input for such year is multiplied by 40 percent.</p> | <p>(b)(1) By October 31, 2008 and October 31 of each year thereafter, the permitting authority will submit to the Administrator the CAIR NO<sub>x</sub> allowance allocations, in a format prescribed by the Administrator and in accordance with § 96.x42(a) and (b), for the control period in the fourth year after the year of the applicable deadline for submission under this paragraph.</p> <p><b>§ 96.x42 CAIR NO<sub>x</sub> allowance allocations.</b></p> <p>(a)(1) The baseline generation (in MWh) used with respect to CAIR NO<sub>x</sub> allowance allocations under paragraph (b) of this section will be:</p> <p>(i) For each CAIR NO<sub>x</sub> [covered] unit that has operated each calendar year during a period of 5 or more consecutive calendar years, the average of the 3 highest amounts of the unit's control period gross electrical output over the 5 years prior to the allocation year, provided that if a generator is served by 2 or more units, then the gross electrical output of the generator will be attributed to each unit in proportion to the unit's share of the total control period heat input of such units for the year.</p> | <p>Increases frequency of allocation to bring new units into main allocation program sooner.</p> <p>Allocation based on electric generation (output-based).</p> <p>Can include zero-emitting generators.</p> <p>Update generation baseline to most recent five years for all generators.</p> <p>Removes fuel weighting.</p> |

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| <p>(ii) For units commencing operation on or after January 1, 2001 and operating each calendar year during a period of 5 or more consecutive calendar years, the average of the 3 highest amounts of the unit's total converted control period heat input over the first such 5 years.</p> <p>(2)(i) A unit's control period heat input, and a unit's status as coal-fired or oil-fired, for a calendar year under paragraph (a)(1)(i) of this section, and a unit's total tons of NO<sub>x</sub> emissions during a calendar year under paragraph (c)(3) of this section, will be determined in accordance with part 75 of this chapter, to the extent the unit was otherwise subject to the requirements of part 75 of this chapter for the year, or will be based on the best available data reported to the permitting authority for the unit, to the extent the unit was not otherwise subject to the requirements of part 75 of this chapter for the year.</p> <p>(ii) A unit's converted control period heat input for a calendar year specified under paragraph (a)(1)(ii) of this section equals:</p> <p>(A) Except as provided in paragraph (a)(2)(ii)(B) or (C) of this section, the control period gross electrical output of the generator or generators served by the unit multiplied by 7,900 Btu/kWh, if the unit is coal-fired for the year, or 6,675 Btu/kWh, if the unit is not coal-fired for the year, and divided by 1,000,000 Btu/ mmBtu, provided that if a generator is served by 2 or more units, then the gross electrical output of the generator will be attributed to each unit in proportion to the unit's share of the total control period heat input of such units for the year;</p> <p>(B) For a unit that is a boiler and has equipment used to produce electricity and useful thermal energy for industrial, commercial, heating, or cooling purposes through the sequential use of energy, the total heat energy (in Btu) of the steam produced by the boiler during the control period, divided by 0.8 and by 1,000,000</p> | <p>(ii) For units operating each calendar year during a period of at least 3 but less than 5 consecutive calendar years, the average of the 3 highest amounts of the unit's total control period gross electrical output over the consecutive years of operation.</p> <p>(iii) For a unit that has equipment used to produce electricity and useful thermal energy for industrial, commercial, heating, or cooling purposes through the sequential use of energy, the control period gross electrical output of the unit plus the useful thermal energy (in mmBtu) produced during the control period divided by</p> | <p>Uses shorter baseline period for new units to reduce lag time for inclusion in main allocation program.</p> <p>New units now treated the same as older units.</p> <p>Uses the same, consistent CHP allocation methodology for all technologies, all fuels. Consistent with allocation approach for non-CHP</p> |

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| <p>Btu/mmBtu; or</p> <p>(C) For a unit that is a combustion turbine and has equipment used to produce electricity and useful thermal energy for industrial, commercial, heating, or cooling purposes through the sequential use of energy, the control period gross electrical output of the enclosed device comprising the compressor, combustor, and turbine multiplied by 3,414 Btu/kWh, plus the total heat energy (in Btu) of the steam produced by any associated heat recovery steam generator during the control period divided by 0.8, and with the sum divided by 1,000,000 Btu/ mmBtu.</p> <p>(b)(1) For each control period in 2009 and thereafter, the permitting authority will allocate to all CAIR NO<sub>x</sub> units in the State that have a baseline heat input (as determined under paragraph (a) of this section) a total amount of CAIR NO<sub>x</sub> allowances equal to 95 percent for a control period during 2009 through 2014, and 97 percent for a control period during 2015 and thereafter, of the tons of NO<sub>x</sub> emissions in the State trading budget under § 96.x40 (except as provided in paragraph (d) of this section).</p> <p>(2) The permitting authority will allocate CAIR NO<sub>x</sub> allowances to each CAIR NO<sub>x</sub> unit under paragraph (b)(1) of this section in an amount determined by multiplying the total amount of CAIR NO<sub>x</sub> allowances allocated under paragraph (b)(1) of this section by the ratio of the baseline heat input of such CAIR NO<sub>x</sub> unit to the total amount of baseline heat input of all such CAIR NO<sub>x</sub> units in the State and rounding to the nearest whole allowance as appropriate.</p> <p>(c) For each control period in 2009 and thereafter, the permitting authority will allocate CAIR NO<sub>x</sub> allowances to CAIR NO<sub>x</sub> units in the State that commenced operation on or after January 1, 2001 and do not yet have a baseline heat input (as determined under paragraph (a) of this</p> | <p>3.4 mmBtu/MWh.</p> <p>(b)(1) For each control period in 2009 and thereafter, the permitting authority will allocate to all CAIR NO<sub>x</sub> units in the State that have baseline generation (as determined under paragraph (a) of this section) a total amount of CAIR NO<sub>x</sub> allowances equal to 95 percent for a control period during 2009 through 2014, and 97 percent for a control period during 2015 and thereafter, of the tons of NO<sub>x</sub> emissions in the State trading budget under § 96.x40 (except as provided in paragraph (d) of this section).</p> <p>(2) The permitting authority will allocate CAIR NO<sub>x</sub> allowances to each CAIR NO<sub>x</sub> unit under paragraph (b)(1) of this section in an amount determined by multiplying the total amount of CAIR NO<sub>x</sub> allowances allocated under paragraph (b)(1) of this section by the ratio of the baseline generation of such CAIR NO<sub>x</sub> unit to the total amount of baseline generation of all such CAIR NO<sub>x</sub> units in the State and rounding to the nearest whole allowance as appropriate.</p> <p>(c) For each control period in 2009 and thereafter, the permitting authority will allocate CAIR NO<sub>x</sub> allowances to CAIR NO<sub>x</sub> units in the State that commenced operation on or after January 1, 2001 and do not yet have a baseline generation (as determined under paragraph (a)</p> | <p>units.</p> <p>Adjust these values to account for changes in new sources set-aside or addition of other set-asides so that total is 100 percent.</p> |

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| <p>section), in accordance with the following procedures:</p> <p>(1) The permitting authority will establish a separate new unit set-aside for each control period. Each new unit set-aside will be allocated CAIR NO<sub>x</sub> allowances equal to 5 percent for a control period in 2009 through 2013, and 3 percent for a control period in 2014 and thereafter, of the amount of tons of NO<sub>x</sub> emissions in the State trading budget under § 96.x40.</p> <p>(2) The CAIR designated representative of such a CAIR NO<sub>x</sub> unit may submit to the permitting authority a request, in a format specified by the permitting authority, to be allocated CAIR NO<sub>x</sub> allowances, starting with the later of the control period in 2009 or the first control period after the control period in which the CAIR NO<sub>x</sub> unit commences commercial operation and until the first control period for which the unit is allocated CAIR NO<sub>x</sub> allowances under paragraph (b) of this section. The CAIR NO<sub>x</sub> allowance allocation request must be submitted on or before July 1 of the first control period for which the CAIR NO<sub>x</sub> allowances are requested and after the date on which the CAIR NO<sub>x</sub> unit commences commercial operation.</p> <p>(3) In a CAIR NO<sub>x</sub> allowance allocation request under paragraph (c)(2) of this section, the CAIR designated representative may request for a control period CAIR NO<sub>x</sub> allowances in an amount not exceeding the CAIR NO<sub>x</sub> unit's total tons of NO<sub>x</sub> emissions during the calendar year immediately before such control period.</p> <p>(4) The permitting authority will review each CAIR NO<sub>x</sub> allowance allocation request under paragraph (c)(2) of this section and will allocate CAIR NO<sub>x</sub> allowances for each control period pursuant to such request as follows:</p> <p>(i) The permitting authority will accept an allowance allocation request only if the request meets, or is adjusted</p> | <p>of this section), in accordance with the following procedures:</p> <p>(1) The permitting authority will establish a separate new unit set-aside for each control period. Each new unit set-aside will be allocated CAIR NO<sub>x</sub> allowances equal to 5 percent for a control period in 2009 through 2014, and 3 percent for a control period in 2015 and thereafter, of the amount of tons of NO<sub>x</sub> emissions in the State trading budget under § 96.x40.</p> <p>(2) The CAIR designated representative of such a CAIR NO<sub>x</sub> unit may submit to the permitting authority a request, in a format specified by the permitting authority, to be allocated CAIR NO<sub>x</sub> allowances, starting with the later of the control period in 2009 or the first control period after the control period in which the CAIR NO<sub>x</sub> unit commences commercial operation and until the first control period for which the unit is allocated CAIR NO<sub>x</sub> allowances under paragraph (b) of this section. The CAIR NO<sub>x</sub> allowance allocation request must be submitted on or before July 1 of the first control period for which the CAIR NO<sub>x</sub> allowances are requested and after the date on which the CAIR NO<sub>x</sub> unit commences commercial operation.</p> <p>(3) In a CAIR NO<sub>x</sub> allowance allocation request under paragraph (c)(2) of this section, the CAIR designated representative may request for a control period CAIR NO<sub>x</sub> allowances in an amount not exceeding the CAIR NO<sub>x</sub> unit's total tons of NO<sub>x</sub> emissions during the calendar year immediately before such control period.</p> <p>(4) The permitting authority will review each CAIR NO<sub>x</sub> allowance allocation request under paragraph (c)(2) of this section and will allocate CAIR NO<sub>x</sub> allowances for each control period pursuant to such request as follows:</p> <p>(i) The permitting authority will accept an allowance allocation request only if the request meets, or is adjusted</p> | <p>States can change the set-aside amounts. Adjust values in 96.x41 (b) (1) so that total is 100 percent.</p> <p>Correct erroneous dates in EPA model rule.</p> |

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| <p>by the permitting authority as necessary to meet, the requirements of paragraphs (c)(2) and (3) of this section.</p> <p>(ii) On or after July 1 of the control period, the permitting authority will determine the sum of the CAIR NO<sub>x</sub> allowances requested (as adjusted under paragraph (c)(4)(i) of this section) in all allowance allocation requests accepted under paragraph (c)(4)(i) of this section for the control period.</p> <p>(iii) If the amount of CAIR NO<sub>x</sub> allowances in the new unit set-aside for the control period is greater than or equal to the sum under paragraph (c)(4)(ii) of this section, then the permitting authority will allocate the amount of CAIR NO<sub>x</sub> allowances requested (as adjusted under paragraph (c)(4)(i) of this section) to each CAIR NO<sub>x</sub> unit covered by an allowance allocation request accepted under paragraph (c)(4)(i) of this section.</p> <p>(iv) If the amount of CAIR NO<sub>x</sub> allowances in the new unit set-aside for the control period is less than the sum under paragraph (c)(4)(ii) of this section, then the permitting authority will allocate to each CAIR NO<sub>x</sub> unit covered by an allowance allocation request accepted under paragraph (c)(4)(i) of this section the amount of the CAIR NO<sub>x</sub> allowances requested (as adjusted under paragraph (c)(4)(i) of this section), multiplied by the amount of CAIR NO<sub>x</sub> allowances in the new unit set-aside for the control period, divided by the sum determined under paragraph (c)(4)(ii) of this section, and rounded to the nearest whole allowance as appropriate.</p> <p>(v) The permitting authority will notify each CAIR designated representative that submitted an allowance allocation request of the amount of CAIR NO<sub>x</sub> allowances (if any) allocated for the control period to the CAIR NO<sub>x</sub> unit covered by the request.</p> | <p>by the permitting authority as necessary to meet, the requirements of paragraphs (c)(2) and (3) of this section.</p> <p>(ii) On or after July 1 of the control period, the permitting authority will determine the sum of the CAIR NO<sub>x</sub> allowances requested (as adjusted under paragraph (c)(4)(i) of this section) in all allowance allocation requests accepted under paragraph (c)(4)(i) of this section for the control period.</p> <p>(iii) If the amount of CAIR NO<sub>x</sub> allowances in the new unit set-aside for the control period is greater than or equal to the sum under paragraph (c)(4)(ii) of this section, then the permitting authority will allocate the amount of CAIR NO<sub>x</sub> allowances requested (as adjusted under paragraph (c)(4)(i) of this section) to each CAIR NO<sub>x</sub> unit covered by an allowance allocation request accepted under paragraph (c)(4)(i) of this section.</p> <p>(iv) If the amount of CAIR NO<sub>x</sub> allowances in the new unit set-aside for the control period is less than the sum under paragraph (c)(4)(ii) of this section, then the permitting authority will allocate to each CAIR NO<sub>x</sub> unit covered by an allowance allocation request accepted under paragraph (c)(4)(i) of this section the amount of the CAIR NO<sub>x</sub> allowances requested (as adjusted under paragraph (c)(4)(i) of this section), multiplied by the amount of CAIR NO<sub>x</sub> allowances in the new unit set-aside for the control period, divided by the sum determined under paragraph (c)(4)(ii) of this section, and rounded to the nearest whole allowance as appropriate.</p> <p>(v) The permitting authority will notify each CAIR designated representative that submitted an allowance allocation request of the amount of CAIR NO<sub>x</sub> allowances (if any) allocated for the control period to the CAIR NO<sub>x</sub> unit covered by the request.</p> |          |

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|                | <p>(d) For each control period in 2009 and thereafter, the permitting authority will allocate CAIR NO<sub>x</sub> allowances to qualifying energy efficiency and renewable energy units in the State, in accordance with the following procedures:</p> <p>(1) The permitting authority will establish a separate energy efficiency/renewable energy set-aside for each control period. Each energy efficiency/ renewable set-aside will be allocated CAIR NO<sub>x</sub> allowances equal to 5 percent of the amount of tons of NO<sub>x</sub> emissions in the State trading budget under § 96.x40.</p> <p>(2) The CAIR designated representative of such an energy efficiency/renewable energy project may submit to the permitting authority a request, in a format specified by the permitting authority, to be allocated CAIR NO<sub>x</sub> allowances, starting with the later of the control period in 2009 or the first control period after the control period in which the energy efficiency or renewable unit commences commercial operation. The CAIR NO<sub>x</sub> allowance allocation request must be submitted on or before July 1 of the first control period for which the CAIR NO<sub>x</sub> allowances are requested and after the date on which the energy efficiency/renewable energy project commences commercial operation.</p> <p>(3) In a CAIR NO<sub>x</sub> allowance allocation request under paragraph (d)(2) of this section, the CAIR designated representative may request for a control period CAIR NO<sub>x</sub> allowances in an amount not exceeding:</p> <p>i. For a renewable energy unit, the control period gross electrical output of the facility during the calendar year immediately before such control period multiplied by 1.5 lb/MWh for the years 2009-2014, or 1.25 lb/MWh for 2015 and thereafter and divided by 2000 and rounded to the nearest whole allowance as appropriate.</p> | <p>Energy efficiency/ renewable energy set-aside.</p> <p>States can determine size of set-aside. Adjust values in section (b)(1) so that total is 100 percent.</p> <p>Allocation based on nominal cap levels and average heat rate (10,000 Btu/kWh). Different allocation approaches can be used.</p> |

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|                | <p>ii. For an end-use efficiency unit, the control period verified reduction in electricity consumption during the calendar year immediately before such control period multiplied by 1.5 lb/MWh for the years 2009-2014, or 1.25 lb/MWh for 2015 and thereafter and divided by 2000 and rounded to the nearest whole allowance as appropriate.</p> <p>(4) The permitting authority will review each CAIR NO<sub>x</sub> allowance allocation request under paragraph (d)(2) of this section and will allocate CAIR NO<sub>x</sub> allowances for each control period pursuant to such request as follows:</p> <p>(i) The permitting authority will accept an allowance allocation request only if the request meets, or is adjusted by the permitting authority as necessary to meet, the requirements of paragraphs (d)(2) and (3) of this section.</p> <p>(ii) On or after July 1 of the control period, the permitting authority will determine the sum of the CAIR NO<sub>x</sub> allowances requested (as adjusted under paragraph (d)(4)(i) of this section) in all allowance allocation requests accepted under paragraph (d)(4)(i) of this section for the control period.</p> <p>(iii) If the amount of CAIR NO<sub>x</sub> allowances in the energy efficiency/renewable energy set-aside for the control period is greater than or equal to the sum under paragraph (d)(4)(ii) of this section, then the permitting authority will allocate the amount of CAIR NO<sub>x</sub> allowances requested (as adjusted under paragraph (d)(4)(i) of this section) to each energy efficiency/renewable energy project covered by an allowance allocation request accepted under paragraph (d)(4)(i) of this section.</p> <p>(iv) If the amount of CAIR NO<sub>x</sub> allowances in the energy efficiency/renewable energy set-aside for the control period is less than the sum under paragraph (d)(4)(ii) of this section, then the permitting authority will allocate to each energy efficiency/renewable energy project covered</p> | <p>Allocation based on nominal cap levels and average heat rate (10,000 Btu/kWh). Different allocation approaches can be used.</p> |

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| <p>(d) If, after completion of the procedures under paragraph (c)(4) of this section for a control period, any unallocated CAIR NO<sub>x</sub> allowances remain in the new unit set-aside for the control period, the permitting authority will allocate to each CAIR NO<sub>x</sub> unit that was allocated CAIR NO<sub>x</sub> allowances under paragraph (b) of this section an amount of CAIR NO<sub>x</sub> allowances equal to the total amount of such remaining unallocated CAIR NO<sub>x</sub> allowances, multiplied by the unit's allocation under paragraph (b) of this section,</p> | <p>by an allowance allocation request accepted under paragraph (d)(4)(i) of this section the amount of the CAIR NO<sub>x</sub> allowances requested (as adjusted under paragraph (d)(4)(i) of this section), multiplied by the amount of CAIR NO<sub>x</sub> allowances in the energy efficiency/renewable energy set-aside for the control period, divided by the sum determined under paragraph (d)(4)(ii) of this section, and rounded to the nearest whole allowance as appropriate.</p> <p>(v) The permitting authority will notify each CAIR designated representative that submitted an allowance allocation request of the amount of CAIR NO<sub>x</sub> allowances (if any) allocated for the control period to the energy efficiency/renewable energy project covered by the request.</p> <p>(e) For each control period in 2009 and thereafter, the permitting authority will allocate CAIR NO<sub>x</sub> allowances to a Public Health Set-aside. The allowances in the Public Health Set-aside will be permanently retired and will not be available for compliance for any affected unit.</p> <p>(1) The permitting authority will establish a Public Health Set-aside for each control period. Each Public Health Set-aside will be allocated CAIR NO<sub>x</sub> allowances equal to X percent for a control period in 2009 through 2014, and Y percent for a control period in 2015 and thereafter, of the amount of tons of NO<sub>x</sub> emissions in the State trading budget under § 96.x40.</p> <p>(f) If, after completion of the procedures under paragraphs (c)(4) and (d)(4) of this section for a control period, any unallocated CAIR NO<sub>x</sub> allowances remain in the new unit and energy efficiency/renewable set-asides for the control period, the permitting authority will allocate to each CAIR NO<sub>x</sub> unit that was allocated CAIR NO<sub>x</sub> allowances under paragraph (b) of this section an amount of CAIR NO<sub>x</sub> allowances equal to the total amount of such remaining unallocated CAIR NO<sub>x</sub> allowances, multiplied by the unit's</p> | <p>"Public Health Set-aside" to reduce cap level.</p> <p>States can determine size of set-aside. Adjust remainder values in section (b)(1) so that total is 100%.</p> |

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| <p>divided by 95 percent for a control period during 2009 through 2014, and 97 percent for a control period during 2015 and thereafter, of the amount of tons of NO<sub>x</sub> emissions in the State trading budget under § 96.x40, and rounded to the nearest whole allowance as appropriate.</p> | <p>allocation under paragraph (b) of this section, divided by 95 percent for a control period during 2009 through 2014, and 97 percent for a control period during 2015 and thereafter, of the amount of tons of NO<sub>x</sub> emissions in the State trading budget under § 96.x40, and rounded to the nearest whole allowance as appropriate.</p> | <p>Set values equal to values in section 96.x41 (b)(1).</p> |