

**Delaware' CO₂
Budget Trading
Program**

Regulation 1147

Workgroup Presentation

6-18-2008

SB 263 – RGGI Legislation

- AN ACT TO AMEND TITLE 7 OF THE DELAWARE CODE RELATING TO A REGIONAL GREENHOUSE GAS INITIATIVE AND CO2 EMISSION TRADING PROGRAM.
 - Jun 18, 2008 – House Energy and Natural Resources Committee Hearing
 - Jun 12, 2008 - Introduced and Assigned to Energy and Natural Resources Committee in House
 - Jun 11, 2008 - Passed by Senate.

Section 1- General Provisions

1. Purpose.
2. Applicability.
3. Definitions.
4. Measurements, abbreviations, and acronyms.
5. Standard Requirements.
6. Computation of time.
7. Severability.

Section 1.2 - Applicability

■ 1.2.1 Units

Any unit that, at any time on or after January 1, 2005, serves an electricity generator with a nameplate capacity equal to or greater than 25 MWe shall be a CO2 budget unit, and any source that includes one or more such units shall be a CO2 budget source, subject to the requirements of this Part.

Limited exemption for units with low electrical output to the electric grid

- 1.2.2.1 *Applicability.* Notwithstanding 1.2.1 of this regulation, a unit that meets all of the following requirements shall be exempt from 7 DE Admin Code 1147, except for 1.3, 1.4, 1.6 and, if applicable because of the allocation of CO₂ allowances during the pre-exemption time period, sections 5, 6 and 7.
- 1.2.2.1.1. The unit is covered by a permit issued pursuant to 7 DE Admin Code 1102 or 1130 that contains practically enforceable conditions that restrict the supply of the unit's annual electrical output to the electric grid to less than or equal to 10 percent of the annual gross generation of the unit, and
 - 1.2.2.1.2. The unit complies with all of the requirements of 1.2.2.3 of this regulation.

Limited exemption for units with low electrical output to the electric grid

1.2.2.3 Compliance.

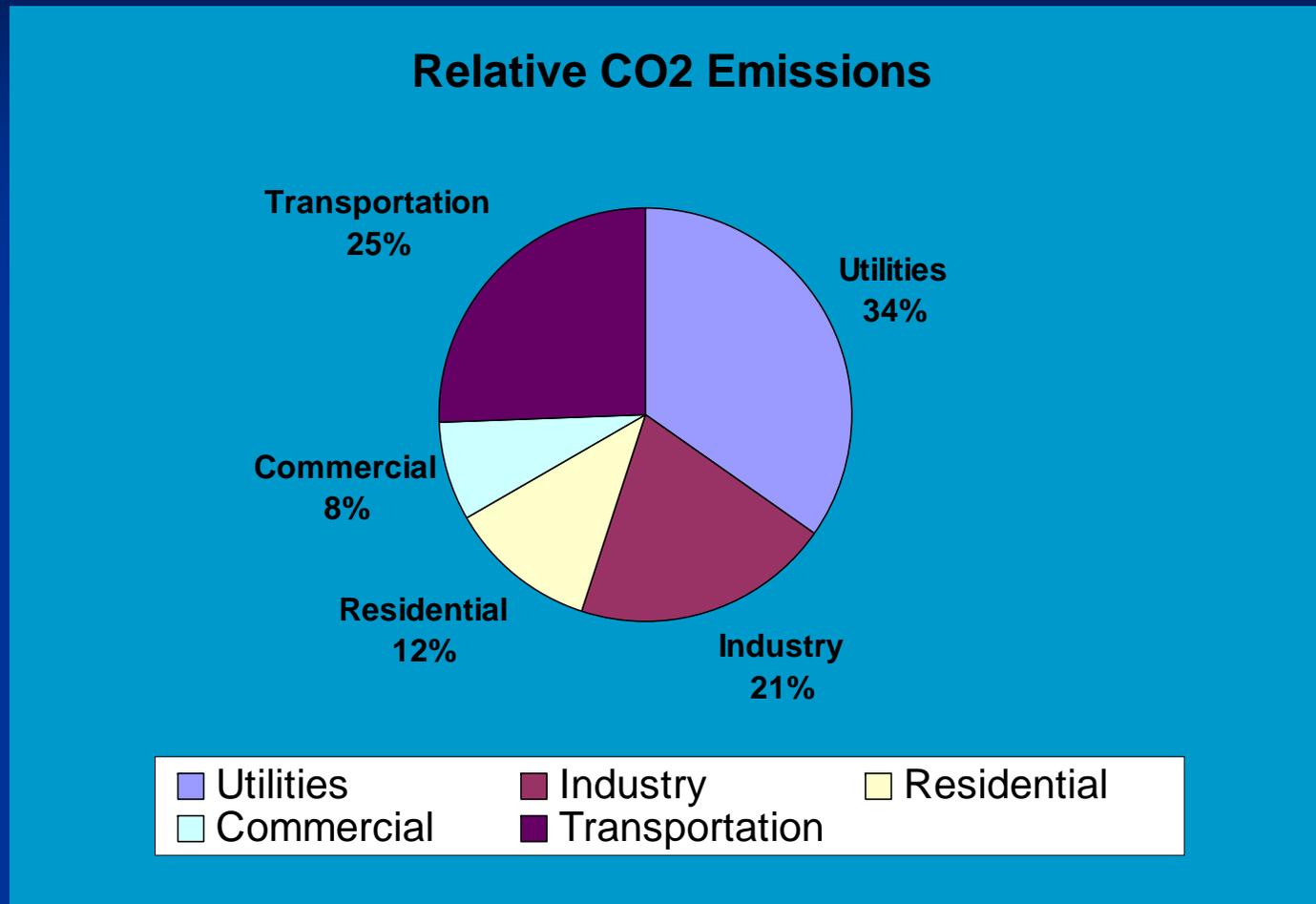
- 1.2.2.3.1 A unit exempt under 1.2.2.1 of this regulation shall comply with the restriction on percentage of annual gross generation that may be supplied to the electric grid described in 1.2.2.1 of this regulation.
- 1.2.2.3.2 A unit exempt under 1.2.2.1 of this regulation shall, by February 1st of each year, beginning in the year after the exemption takes effect, report to the Department the amount of annual gross generation and the amount of annual gross generation supplied to the electric grid during the prior year.

Limited exemption for units with low electrical output to the electric grid

Reasons why DNREC believes this model rule exemption is appropriate for DE:

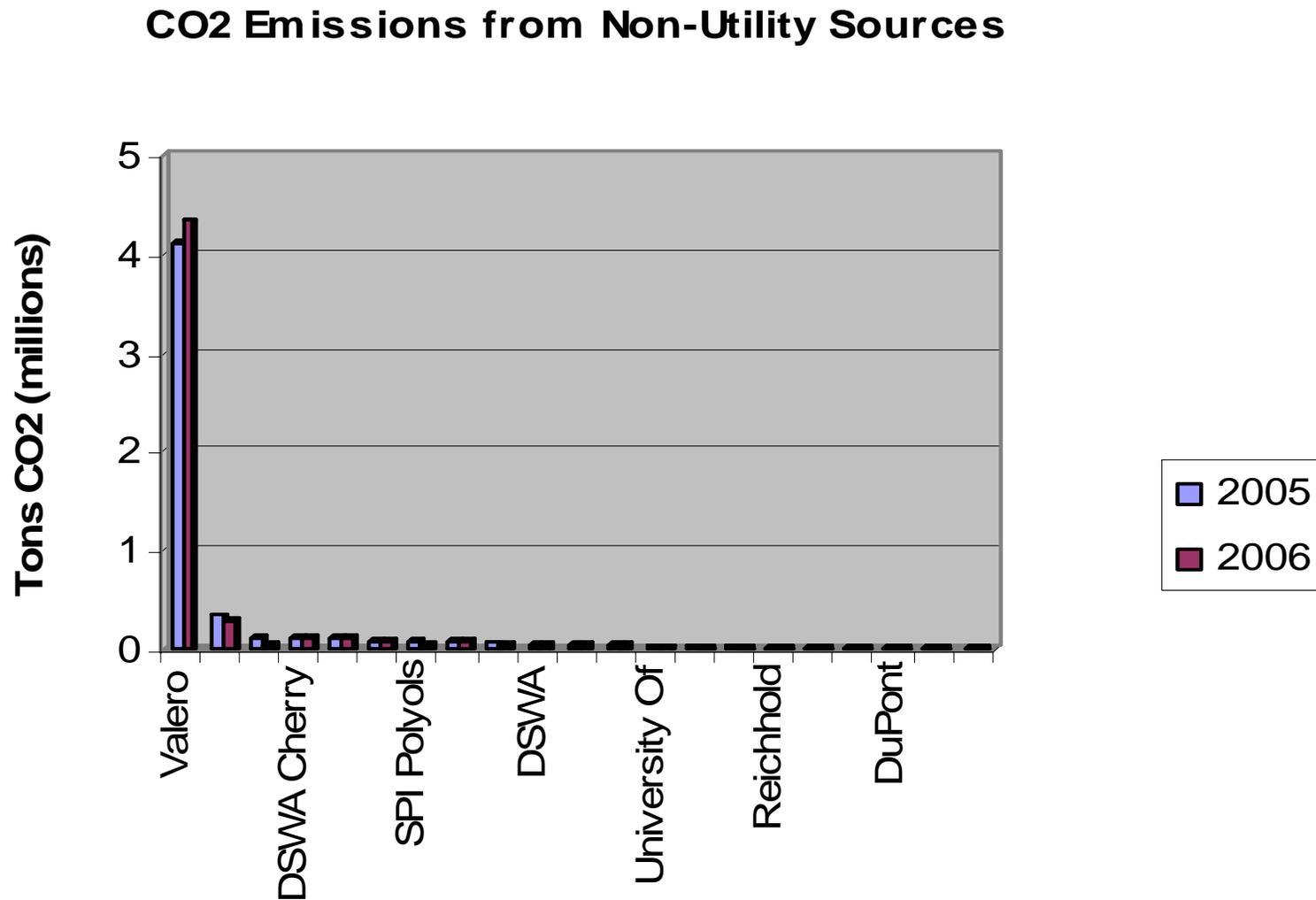
- The primary objective of the RGGI Program is to address CO2 emissions from the power sector.
- RGGI, which covers only the power sector, is only the first step in our efforts to regulate GHG emissions.
- The refinery is currently the only Delaware source that is physically able request a permit condition limiting generation sales to the grid to less than 10%.
- Including the refinery may penalize the refinery for CHP/steam generation for process heat.
- The refinery is both the generator and user of their power and, unlike power plants, they have direct control over both generation and use. Because of this RGGI may not be the best means to regulate this facility.

CO₂ Emissions by Sector



- Delaware's CO₂ Emissions in 1990 were 15.6 MMT (DE Climate Change Action Plan, 2000)
- DNREC presently updating CO₂ inventory

The Premcor refinery is a large source of CO2 emissions in DE.



Limited exemption for units with low electrical output to the electric grid

- Upon implementation of the RGGI program, Premcor will be the largest unregulated CO₂ source in the State.
- While DNREC believes that RGGI may not be the best means to regulate CO₂ emissions from Premcor, we also believe that Premcor CO₂ emissions are too large to not regulate at this time.
 - Premcor emissions would makeup ___% of the unregulated point source emissions.
 - Premcor emissions are larger than many of the units regulated in RGGI.

Limited exemption for units with low electrical output to the electric grid

- DNREC proposes that a Climate Action Plan is an appropriate means to regulate Premcor emissions, and proposes to add the following requirements to 1.2.2.3:
 - A unit exempt under section 1.2.2.1 of this regulation shall submit to the Department for approval a climate action plan that provides for the reduction of CO₂ emissions through reasonably available reduction practices. Such plan shall include all of the following elements:
 - Baseline GHG emissions inventory
 - Projected Emissions Forecast (thru 2050?)
 - Absolute GHG reduction targets
 - Short or near term - Xx% below 19xx by 20xx
 - Long term – xx% below 19xx by 2050
 - Adaptation Strategies?

Limited exemption for units with low electrical output to the electric grid

- Adaptation Strategies?
 - Mitigation Strategies
 - Current
 - Proposed
 - Implementation
 - Monitoring & Reporting
 - Education & Outreach?
-
- 1.2.2.3.4 A CO₂ Budget Source subject to the requirements of 1.2.2.3.3 of this regulation shall provide annual updates on reductions achieved by the approved climate action plan. The CO₂ Budget Source shall the option to meet their emission reduction targets specified by 1.2.2.3.3 of this regulation by purchase and retirement of CO₂ allowances for any calendar year.

1.2.2.4 *Deduction of tons from State of Delaware CO2 Budget Trading*

Program limited industrial exemption set-aside account. In the event that the Department grants an exemption 1.2.2 of this regulation to a CO2 source, with one or more units that on January 1, 2005, serves an electricity generator with a nameplate capacity equal to or greater than 25 MWe, the Department shall retire for each subsequent allocation year the number of CO2 tons equal to the exempt source's average annual emissions over the most recent three calendar years for which data are available. The retired tons shall be taken from the set-aside established for such purpose under section 5.3 of this regulation.

Section 5 – Allowance Allocations

1. Base Budget.
2. Timing requirements for allowance allocations.
3. Allowance allocations.

5.1 STATE OF DELAWARE CO₂ trading program base budget.

- (a) For the 2009 through 2014 allocation years, the STATE OF DELAWARE CO₂ Budget Trading Program annual base budget is 7,559,787 tons.
- (b) For the 2015 allocation year, the STATE OF DELAWARE CO₂ Budget Trading Program annual base budget is 7,370,792 tons.
- (c) For the 2016 allocation year, the STATE OF DELAWARE CO₂ Budget Trading Program annual base budget is 7,181,798 tons.
- (d) For the 2017 allocation year, the STATE OF DELAWARE CO₂ Budget Trading Program annual base budget is 6,992,803 tons.
- (e) For the 2018 allocation year and each succeeding allocation year, the STATE OF DELAWARE CO₂ Budget Trading Program annual base budget is 6,803,808 tons.

5.2 Timing requirements for CO2 allowance allocations.

- 5.2.1 By January 1, 2009, the DEPARTMENT will determine the CO2 allowance allocations under 5.3.1 and 5.3.2 for the 2009, 2010, 2011, and 2012 allocation years.
- 5.2.2 By January 1, 2010 and January 1 of each year thereafter, the DEPARTMENT will allocate CO2 allowances under 5.3.1 and 5.3.2 of this regulation for the allocation year that commences in the year that is three years after the applicable deadline for allocation under this regulation.

5.3 CO2 allowance allocations.

5.3.1 *General allocations.*

- *Beginning with 2009 CO2 allowances, the Department shall auction 60% of allowances available to Delaware and allocate 40% to each applicable unit as defined in 1.2.1 of this regulation in proportion to their average annual emissions from 2000-2002. The percentage of allowances auctioned by the Department shall increase by 8% per year, such that 100% of Delaware's allowances for 2014 shall be auctioned. The allowances shall be distributed in accordance with the following calculation:*

$$\text{Allocated tons/unit} = (\% \text{ of Budget/unit} \times \text{DE RGGI Budget}) \times (\% \text{ available for allocation} \times \text{DE RGGI Budget})$$

Where: DE RGGI Budget = 7,557,787 tons – Limited Industrial Exemption Set Aside

Example Calculation:

$$243,902 \text{ tons/unit} = (8.07\% \times 7,559,787 \text{ tons}) \times (40\% \times 7,559,787 \text{ tons})$$

Analysis with Premcor RGGI Units					2009	2010	2011	2012	2013	2014
Plant Name	Boiler ID	Gen. ID	2000 - 2002 3-yr. avg.	% per unit	40% Allocation (60% Auction)	32% Allocation (68% Auction)	24% Allocation (76% Auction)	16% Allocation (84% Auction)	8% Allocation (92% Auction)	100% Auction
Conectiv Christina	3		2,333	0.03%	907	725	544	408	227	
Conectiv Christina	4		2,255	0.03%	876	701	526	394	219	
Conectiv Edge Moor	3	3	609,756	7.84%	236,979	189,583	142,187	106,640	59,245	
Conectiv Edge Moor	4	4	999,580	12.85%	388,482	310,785	233,089	174,817	97,120	
Conectiv Edge Moor	5	5	684,513	8.80%	266,033	212,826	159,620	119,715	66,508	
NRG Indian River	1	1	447,985	5.76%	174,107	139,286	104,464	78,348	43,527	
NRG Indian River	2	2	486,991	6.26%	189,267	151,413	113,560	85,170	47,317	
NRG Indian River	3	3	526,418	6.77%	204,590	163,672	122,754	92,065	51,147	
NRG Indian River	4	4	1,601,864	20.59%	622,557	498,045	373,534	280,151	155,639	
City of Dover McKee Run	3	3	154,711	1.99%	60,128	48,102	36,077	27,058	15,032	
Conectiv Hay Road	1	1	178,564	2.29%	69,398	55,519	41,639	31,229	17,350	
Conectiv Hay Road	2	2	186,742	2.40%	72,576	58,061	43,546	32,659	18,144	
Conectiv Hay Road	3	3	193,248	2.48%	75,105	60,084	45,063	33,797	18,776	
Conectiv Hay Road	4	4	0	0.00%	-	-	-	-	-	
Conectiv Hay Road	5	5	149,791	1.93%	58,216	46,572	34,929	26,197	14,554	
Conectiv Hay Road	6	6	152,481	1.96%	59,261	47,409	35,557	26,667	14,815	
Conectiv Hay Road	7	7	156,921	2.02%	60,986	48,789	36,592	27,444	15,247	
Conectiv Hay Road	8	8	0	0.00%	-	-	-	-	-	
City of Dover Van Sant	11	1	5,290	0.07%	2,056	1,645	1,234	925	514	
Warren F. Beasley Station	1	1	13,946	0.18%	5,420	4,336	3,252	2,439	1,355	
NRG Energy Center Dover	2	2	10,468	0.13%	4,068	3,255	2,441	1,831	1,017	
NRG Energy Center Dover	3	3	9,258	0.12%	3,598	2,878	2,159	1,619	900	
Motiva Refinery	BLR1	G1	297,966	3.83%	115,803	92,643	69,482	52,111	28,951	
Motiva Refinery	BLR2	G2	232,018	2.98%	90,173	72,138	54,104	40,578	22,543	
Motiva Refinery	BLR3	G3	246,474	3.17%	95,791	76,633	57,475	43,106	23,948	
Motiva Refinery	DCPP4	G4	322,050	4.14%	125,163	100,130	75,098	56,323	31,291	
Motiva Refinery	MECCU1	CT1	69,955	0.90%	27,188	21,750	16,313	12,234	6,797	
Motiva Refinery	MECCU2	CT2	39,080	0.50%	15,188	12,151	9,113	6,835	3,797	

Analysis without Premcor RGGI Units					2009	2010	2011	2012	2013	2014
Plant Name	Boiler ID	Gen. ID	2000 - 2002 3-yr. ave.	% per unit	40% Allocation (60% Auction)	32% Allocation (68% Auction)	24% Allocation (76% Auction)	16% Allocation (84% Auction)	8% Allocation (92% Auction)	100% Auction
Conectiv Christina	3		2,333	0.04%	902	722	541	406	225	
Conectiv Christina	4		2,255	0.03%	872	697	523	392	218	
Conectiv Edge Moor	3	3	609,756	9.28%	235,707	188,565	141,424	106,068	58,927	
Conectiv Edge Moor	4	4	999,580	15.21%	386,397	309,117	231,838	173,878	114,962	
Conectiv Edge Moor	5	5	684,513	10.41%	264,605	211,684	158,763	119,072	78,726	
NRG Indian River	1	1	447,985	6.82%	173,173	138,538	103,904	77,928	51,523	
NRG Indian River	2	2	486,991	7.41%	188,251	150,601	112,950	84,713	56,009	
NRG Indian River	3	3	526,418	8.01%	203,492	162,793	122,095	91,571	60,544	
NRG Indian River	4	4	1,601,864	24.37%	619,215	495,372	371,529	278,647	184,232	
City of Dover McKee Run	3	3	154,711	2.35%	59,805	47,844	35,883	26,912	17,793	
Conectiv Hay Road	1	1	178,564	2.72%	69,026	55,221	41,415	31,062	20,537	
Conectiv Hay Road	2	2	186,742	2.84%	72,187	57,749	43,312	32,484	21,477	
Conectiv Hay Road	3	3	193,248	2.94%	74,702	59,761	44,821	33,616	22,226	
Conectiv Hay Road	4	4	0	0.00%	-	-	-	-	-	
Conectiv Hay Road	5	5	149,791	2.28%	57,903	46,322	34,742	26,056	17,228	
Conectiv Hay Road	6	6	152,481	2.32%	58,943	47,154	35,366	26,524	17,537	
Conectiv Hay Road	7	7	156,921	2.39%	60,659	48,527	36,395	27,297	18,048	
Conectiv Hay Road	8	8	0	0.00%	-	-	-	-	-	
City of Dover Van Sant	11	1	5,290	0.08%	2,045	1,636	1,227	920	608	
Warren F. Beasley Station	1	1	13,946	0.21%	5,391	4,313	3,235	2,426	1,604	
NRG Energy Center Dover	2	2	10,468	0.16%	4,046	3,237	2,428	1,821	1,204	
NRG Energy Center Dover	3	3	9,258	0.14%	3,579	2,863	2,147	1,610	1,065	
Motiva Refinery	BLR1	G1			-	-	-	-	-	
Motiva Refinery	BLR2	G2			-	-	-	-	-	
Motiva Refinery	BLR3	G3			-	-	-	-	-	
Motiva Refinery	DCPP4	G4			-	-	-	-	-	
Motiva Refinery	MECCU1	CT1			-	-	-	-	-	
Motiva Refinery	MECCU2	CT2			-	-	-	-	-	

ALSO IN SECTION 5.3

[The following subdivision is an optional set-a-side provision for states that adopt the optional section 1.2.2. It represents one way a state could implement such a set-a-side.]

5.3.5 *Limited industrial exemption set-a-side allocation.* The limited industrial exemption set-a-side allocation will consist of 1,207,544 tons from the STATE OF DELAWARE CO2 Budget Trading Program base budget set forth in section XX5.1, as applicable. For each control period, the DEPARTMENT will determine CO2 allowance allocations in accordance with the following procedures.

5.3.5.1 The DEPARTMENT will open and manage a general account for the limited exemption set-a-side for each control period.

5.3.5.2 As of the January 1 that is after the date that an exemption under subdivision 1.2.2 has been granted, for each allocation year the DEPARTMENT may retire CO2 allowances in the limited industrial exemption set-a-side General account as determined pursuant to paragraph 1.2.2.4.

5.3.5.3 After retirement of allowances pursuant to 5.3.5.2 of this regulation, the Department will determine whether any CO₂ allowances remain in the limited industrial exemption set-a-side general account for the control period. The Department will transfer any such remaining CO₂ allowances from the limited industrial exemption set-a-side allocation general account to the compliance account of each CO₂ budget source that was allocated allowances pursuant to 5.3.5.1 of this regulation using the following methodology:

Existing CO₂ budget unit's share of the CO₂ allowances remaining in the limited industrial exemption set-a-side general account = Total CO₂ allowances remaining in the limited industrial exemption set-a-side general account x (The individual CO₂ budget unit's CO₂ allowance allocation determined in accordance with 5.3.5.1 of this regulation ÷ The STATE OF DELAWARE CO₂ Budget Trading Program annual base budget, as applicable)

Where:

“Total CO2 allowances remaining in the limited industrial exemption set-a-side allocation general account” is the total number of CO2 allowances remaining in the limited industrial exemption set-a-side allocation general account (established under paragraph 5.3.5.1 of this regulation) for the particular control period to which the limited industrial exemption set-a-side allocation applies; and

“The individual CO2 budget unit’s CO2 allowance allocation” is the number of CO2 allowances allocated under 5.3.5.1 of this regulation to the individual CO2 budget unit for the control period to which the limited industrial exemption set-a-side allocation applies. The Department will only transfer CO2 allowances in whole ton increments. The Department will continue to hold any fractional shares of CO2 allowances in the name of the CO2 budget unit as banked CO2 allowances until they may be combined with other fractional shares of CO2 allowances in future years and then transferred as whole ton increments.

Section 8 – Monitoring and Reporting

1. General requirements.
2. Initial certification and recertification procedures.
3. Out-of-control periods.
4. Notifications.
5. Recordkeeping and reporting.
6. Petitions.
7. Budget units that co-fire eligible biomass.
8. Additional requirements to provide output data “for early reduction allowances”.

Section 8.8 - Additional requirements to provide output data for Early Reduction Allowances.

- Associated with Early Reduction Allowances ONLY

8.8 Additional requirements to provide output data for early reduction allowances.

8.8.1 A CO2 budget unit applying for early reduction allowances pursuant to 5.3.3 of this regulation shall submit to the department or its agent information in accordance with 8.8.3.1 of this regulation. A CO2 budget source whose electrical output is not used in ISO energy market settlement determinations shall propose to the department a method for quantification of net electrical output.

8.8.2 CO2 budget sources selling steam should use billing meters to determine net steam output. A CO2 budget source whose steam output is not measured by billing meters or whose steam output is combined with output from a non-

Section 11 – Delaware Auction Language

- Delaware is committed to participation in a regional auction.
- First RGGI Auction – Sep 10, 2008
- Delaware anticipates participating in the 1st qtr auction of 2009.
- World Energy has been selected as the contractor to “run” the auction.
- PQA has been selected as the contractor to develop the emissions allowance tracking system.

Design Elements for Regional Allowance Auctions under the Regional Greenhouse Gas Initiative

The Regional Greenhouse Gas Initiative, or RGGI, is an agreement among the Governors of ten Northeastern and Mid-Atlantic states (Connecticut, Delaware, Maine, Maryland, Massachusetts, New Jersey, New Hampshire, New York, Rhode Island and Vermont) to reduce greenhouse gas emissions from power plants. The RGGI states (participating states) have committed to cap and then reduce the amount of carbon dioxide (CO₂) that certain power plants are allowed to emit, limiting the region's total contribution to atmospheric greenhouse gas levels. The participating states have agreed to implement RGGI through a regional cap-and-trade program whereby the participating states anticipate auctioning nearly the entire annual regional emissions budget, which initially is approximately 188 million short tons of CO₂. Each ton of CO₂ will constitute an "allowance."

The participating states have agreed to participate in uniform regional auctions for the allowances that each state will be offering for sale. The initial auction is currently planned for September 10, 2008 with a second auction scheduled for December 17, 2008. In conducting regional auctions, the participating states have come to agreement on the following design elements:

Auction Structure and Format: Allowances will be made available for sale on a quarterly basis in lot sizes of 1,000 allowances. The initial auction will offer allowances through a single-round, uniform-price, sealed-bid auction format. While the goal is to maintain a consistent auction format, flexibility will be retained to transition to a multiple-round, ascending-price auction format if necessary to address evolving market conditions.

Allowance Sale Schedule: Allowances will be identified with a vintage corresponding to the allowance's respective allocation year.¹ All allowances made available for auction by states, for a respective compliance period, will be offered for sale prior to the end of that compliance period. Future allowance vintages will be made available for sale in a quantity up to 50-percent of their respective annual allocation, and such offerings may be for allowances extending up to four allocation years into the future.

Participation: All market participants will be eligible to participate in the initial auction, provided they meet applicable qualification requirements, which will include provision of financial security. Flexibility will be retained to limit participant eligibility in subsequent auctions. Auction rules will establish a total limit for the number of allowances that entities (e.g., an organization and its affiliates and/or agents) may purchase in a single auction, equivalent to 25-percent of the allowances offered for sale in any single auction.

Reserve Price: A reserve price of \$1.86 per allowance will apply to the first auction.² After the first auction, a reserve price will be in effect that is the higher of \$1.86 per allowance, as adjusted annually from 2009 onward based on the Consumer Price Index, or 80-percent of the current market price³ of the particular RGGI allowance vintage being auctioned. A reserve price based on the current market price will only be used if representatives from participating states determine that there are sufficient, reliable market data available to establish a valid current market price. The reserve price will be made known to prospective auction participants prior to each auction.

Unsold Allowances: Any unsold allowances will be made available for sale in future auctions in which a reserve price based on the current market price is being used. In 2012, as part of the first program review envisioned in the December 2005 RGGI Memorandum of Understanding, a decision will be made by the participating states as to whether to retire any unsold allowances from the first compliance period, or to offer these allowances for sale in subsequent auctions during the second compliance period.

Notice of Auctions: A public notice of auction will be provided at least 45 days prior to each auction. Such notification will be posted on a publicly available RGGI auction web site and will be made available by states in accordance with any applicable state rules, regulations and/or administrative procedures.

Each auction notice will provide at a minimum: the date, time, and location of the auction, the categories of eligible bidders, any requirements established for qualified participants, the quantity of allowances to be auctioned, and all other relevant information and procedures necessary for prospective bidders to participate in such auction.

Monitoring: The participating states will retain a professional independent market monitor to monitor auctions and subsequent market activity. The independent monitor will observe the conduct of the auction qualification process and the conduct of the auction itself. Based on such monitoring, the independent monitor will provide the participating states with a timely report of whether the auction was conducted in accordance with the regulations established by participating states and the noticed procedures and requirements that apply to qualified auction participants.

Auction Results: Upon approval by the participating states of the auction outcome and upon payment in full by successful bidders to the respective participating states, each state shall transfer the corresponding CO₂ allowances to each successful bidder's applicable account in the CO₂ allowance tracking system. States will retain full regulatory authority for transferring allowances from their respective state accounts to winning bidders, contingent on approval of auction results and financial settlement.

Within a reasonable period of time following each auction, the participating states shall publish on the RGGI auction website the auction clearing price and the total amount of allowances sold in such auction.

Notice: This is a deliberative document and does not represent a final determination on the part of any participating state, state agency or authority, whether or not such participating state, state agency or authority is currently engaged in legislative or rulemaking processes. In particular, any participating state, state agency or authority currently engaged in the legislative or rule-making processes and currently in the required public comment period, will, according to the applicable laws and rules, consider all public comments prior to final determination of any legislative or rulemaking action.

These design principles are available from the RGGI website -
http://www.rggi.org/docs/20080317auction_design.pdf