Department of Natural Resources and Environmental Control

Amendment to
7 DE Admin Codes 1147 –
CO_2 Budget Trading Program

Technical Support Document

September 25, 2013

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I. INTRODUCTION

The Department of Natural Resources and Environmental Control (DNREC) – Division of Air Quality is proposing to amend 7 DE Admin Code 1147- Delaware's *CO_2 Budget Trading Program*. This regulation was based on the Model Rule developed by the participating states of the Regional Greenhouse Gas Initiative (RGGI). RGGI is a cooperative effort amongst Northeast and Mid-Atlantic States[1] limiting carbon dioxide (CO_2) emissions from power plants in the region. 7 DE Admin Code 1147 establishes a compliance obligation on fossil fuel fired electricity generating units with capacities greater than 25 megawatts to report CO_2 emissions and surrender corresponding CO_2 allowances for such emissions.

The proposed amendments to 7 DE Admin Code 1147 would implement the program changes presented in the RGGI Updated Model Rule[2] and RGGI 2012 Program Review Recommendations Summary[3]. The changes contained in the RGGI Updated Model Rule were agreed to by RGGI participating states after a comprehensive two-year program review. The purpose of the RGGI Updated Model Rule is to serve as a template for similar modifications to each of the RGGI participating state's existing *CO_2 Budget Trading Programs*. Those modifications strengthen the RGGI program, make it more effective, and realign the regional cap with current emissions levels, which are significantly lower than the current regional cap.

The changes include:

- Reduction in the regional CO_2 budget (the RGGI cap) for the years 2014 through 2020,
- Adjustments to the RGGI cap in the years 2014-2020 to account for the private bank of allowances,
- Establishment of a Cost Containment Reserve (CCR) to mitigate price spikes should they occur by providing a limited quantity of allowances in addition to the cap if established price thresholds are exceeded,
- Updates to the RGGI offsets program, including a new forestry protocol,
- Creation of interim control periods, which require a partial compliance demonstration in the first two years of each three year control period, and

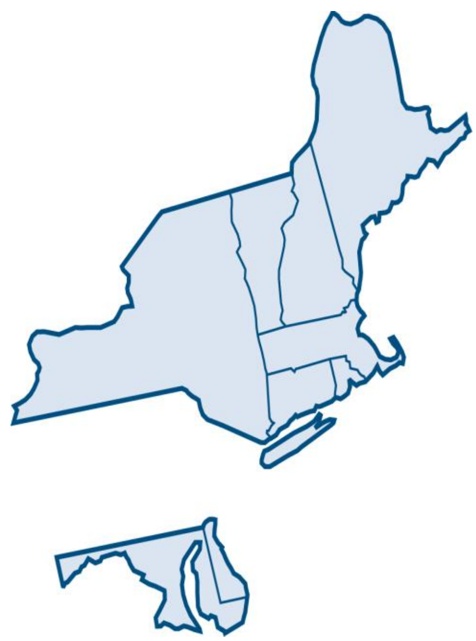

Figure 1. The RGGI Participating States.

[1] RGGI participating states include: Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New York, Rhode Island and Vermont.

[2] http://rggi.org/docs/ProgramReview/_FinalProgramReviewMaterials/Model_Rule_FINAL.pdf .

[3] http://rggi.org/docs/ProgramReview/_FinalProgramReviewMaterials/Recommendations_Summary.pdf .

- Numerous administrative updates, including updates for all documents incorporated by reference.

II. BACKGROUND AND PURPOSE

RGGI is an ongoing effort among Northeast and Mid-Atlantic States to develop and implement a regional CO_2 cap-and-trade program aimed at stabilizing and reducing CO_2 emissions from large fossil-fuel-fired electricity generating units in the region. The regional program is implemented through similar regulations in each of the participating states.

When the program was originally established in 2005, a Memorandum of Understanding (MOU), which outlined the RGGI program elements, was developed. The elements included:

- The level of the regional emissions cap,
- The apportionment of each state's portion of the regional cap,
- The schedule for reductions in the cap through the year 2018,
- A three year compliance period,
- Provisions for offsets (reductions in greenhouse gases from sources outside the electric generating sector),
- Safety valve price triggers that would:
  - Expand the percentage of offset allowances that could be used to demonstrate compliance,
  - Extend the compliance period from three to four years,
  - Allow the use of international offsets,
- Allocation of at least 25% of allowances for consumer benefit or strategic energy purposes,
- Provisions for the creation of Early Reduction Credits, and
- Provisions for the banking of allowances.

Ten states became signatories to the RGGI Memorandum of Understanding (MOU) and proposed, as a first step, implementation of a CO_2 constraint on fossil fuel-fired electricity generation and the development of a cap-and-trade program for the trading of CO_2 emissions allowances, a limited authorization to emit CO_2.[4] In September 2008, the following ten signatory RGGI states included: Delaware, Connecticut, Maine, Maryland, Massachusetts, New Hampshire, New Jersey[5], New York, Rhode Island, and Vermont.

[4] The MOU was signed by the Governors of the participating states and outlines the program in detail, including the framework for a Model Rule. The states made substantial revisions to the draft model rule in response to public comments. As a result, an amendment to the MOU was agreed to and signed by the heads of the energy regulatory and environmental agencies in each participating state. The MOU and amendments are available at http://www.rggi.org/agreement.htm.

[5] New Jersey withdrew from the RGGI program in 2011.

In 2010, the RGGI participating states began to prepare for the comprehensive program review called for in the original RGGI MOU. Between September of 2010 and January of 2013, the participating states convened more than a dozen stakeholder meetings, webinars and learning sessions. These sessions were well attended and helpful comments were received. All documents from the stakeholder process can be found at www.rggi.org .

The RGGI Program Review revealed:

- A significant excess supply of allowances relative to actual emission levels in the region. There are a number of reasons for the significant difference between the current regional cap level and recent regional emissions levels. These reasons include: low natural gas prices which have reduced the use of coal, increased use of renewable energy in place of fossil fuels, reduced electric demand due to energy efficiency measures, weather conditions, and economic activity levels[6].

- The current cost control measures in the program, which are based upon expansion of the percentage of offset allowances allowable for compliance, would likely be ineffective at controlling costs in the event of price spikes.

As a result of these findings, the RGGI participating states have issued an Updated Model Rule[7], and each state has committed to establish in statute and/or regulation amendments to their respective *CO_2 Budget Trading Program* that are substantially consistent with that Updated Model Rule. As was the case during the original development of the RGGI program, the Updated Model Rule is intended to provide the framework for individual state statutory and/or regulatory action. The Updated Model Rule included the following updated RGGI program design elements:

- Size and Structure of the Cap
- Interim Adjustments for Banked Allowances
- Undistributed and Unsold Allowances
- Cost Containment Reserve (CCR)
- Flexibility Mechanisms
- Interim Control Periods
- Reserve Price
- Forestry Offset

As part of the 2012 program review, the RGGI states conducted extensive air emissions modeling, and customer bill analysis, to determine the appropriate level of the new cap that would achieve a significant reduction in GHG emissions, but not cause a significant

[6] The New York State Energy Research and Development Authority issued a draft white paper "The Relative Effects of Various Factors on RGGI Electricity Sector Emissions 2005-2009" which details the reasons for the significant difference between the emissions levels projected in 2005 when the original program cap was set and actual emission levels experienced in the region. See, http://rggi.org/docs/Retrospective_Analysis_Draft_White_Paper.pdf
[7] http://rggi.org/docs/ProgramReview/_FinalProgramReviewMaterials/Model_Rule_FINAL.pdf

negative financial effect on ratepayers. Moreover, the RGGI states conducted several stakeholder meetings and webinars to receive input on the results of the program review and the proposed amendments to the model rule. They received extensive feedback from environmental groups, retail electricity suppliers, power generation companies and consultants. Most of the feedback supported the tighter regional cap of 91 million tons. The feedback also supported the creation of CCR allowances separate from the regional cap with a CCR trigger price, and a new minimum auction reserve price. Several comments supported the creation of a new forestry protocol mirrored after California's existing forestry protocol, and the retirement of unsold allowances. Although there were very few comments that opposed the proposed amendments to the updated model rule, some comments opposed the creation of an interim control period because they believed it could have an impact on market and auction strategies.

III. OVERVIEW OF THE PROPOSED AMENDMENTS TO 7 DE Admin Code 1147 DELAWARE'S *CO_2 BUDGET TRADING PROGRAM.*

A. Size and Structure of the Regional Cap and Delaware State Budget

During the program review, RGGI participating states conducted electric system modeling and macroeconomic analysis for a number of proposed cap levels and key program design elements. The regional emissions cap was set at 91 million tons of CO_2 in 2014, which is closely aligned with current regional emission levels[8]. The cap will be reduced by 2.5 percent per year in the years 2015 through 2020. The lower cap and the 2.5 percent per year reduction in the cap parallel the reduction rate established under the original RGGI program framework and the stated goals of the original program. Macroeconomic analysis indicated that the overall regional economic impacts resulting from the 91 cap will be slightly positive. Also, customer bill impact analysis indicated that the resulting average customer bill impacts will be slightly positive as well.

Delaware's portion of the regional emissions cap is approximately 4.47 percent. Therefore, DNREC is proposing the following Delaware CO_2 Trading Program base budgets by year:

Table 1. Delaware's Annual CO_2 Allowance Budget

Year	CO_2 allowance Budget
2014	4,064,687 tons of CO_2
2015	3,963,069 tons of CO_2
2016	3,863,993 tons of CO_2[9]
2017	3,860,079 tons of CO_2
2018	3,763,577 tons of CO_2

[8] In 2012, CO_2 emissions from power plants in the region were approximately 92 million tons.
[9] 2014, 2015, and 2016 base budgets reflect a voluntary transfer of 100,000 allowances by Delaware in each year to Rhode Island.

Year	CO_2 allowance Budget
2019	3,669,487 tons of CO_2
2020[10]	3,577,750 tons of CO_2

B. Interim Adjustments for Banked Allowances

As part of the determination of the RGGI regional cap for the years 2014 through 2020, consideration was given to the private bank of allowances that will be in circulation when the new cap begins in 2014. These allowances represent excess allowances (more than the total quantity of allowances necessary for all sources regulated under the program to demonstrate compliance) purchased during the 2009 through 2013 period. DNREC is proposing the regional cap and the resulting Delaware *CO_2 Budget Trading Program* base budgets be adjusted downward in two distinct budget adjustments to account for the existing privately held allowances. To accomplish this goal, Delaware (and the other RGGI participating states) are proposing to add the following interim adjustments to the RGGI program.

- The First Control Period Interim Adjustment for Banked Allowances (first adjustment) adjusts the Delaware *CO_2 Budget Trading Program* base budget to account for Delaware’s share of 100 percent of the first control period private bank of allowances (vintages 2009, 2010, and 2011).) These allowances were held by market participants as of the end of the first control period. This change for the region is expected to be approximately 50 million tons. The first adjustment will be determined by January 15, 2014. The adjustment will be made over the seven year period 2014 through 2020.

- The Second Control Period Interim Adjustment for Banked Allowances (second adjustment) adjusts the Delaware *CO_2 Budget Trading Program* base budget to account for Delaware’s share of 100 percent of the 2012 and 2013 vintage allowances. These allowances were held by market participants as of the end of 2013. This change for the region is expected to be approximately 70 million tons. The second adjustment will be determined by March 15, 2014. The adjustment will be made over the six year period 2015 through 2020.

These adjustments will be made over a seven year period to provide market participants with ample notice of the intent to adjust for these allowances, while realigning the long term supply of allowances with the projected emission quantities for that period (projected by the electric system modeling).

[10] And each succeeding calendar year

Interim Control Periods

DNREC is proposing a new general requirement that defines each of the first two years of each three-year control period as Interim Control Periods. Beginning in 2015, sources are required to hold allowances to cover 50 percent of emissions for each Interim Control Period, subject to the existing true-up process and a March 1 deadline. Sources failing to meet this requirement will be deemed to have Excess Interim Emissions. Each ton of Excess Interim Emissions will be considered a violation, subject to enforcement on an annual basis.

The final compliance true-up at the end of the three-year control period will continue to require sources to hold allowances to cover 100 percent of the emissions for the three years. The allowances already deducted to meet each of the two annual Interim Control Period obligations will be subtracted from the three-year compliance true-up obligation.

The Interim Control Periods are being proposed to reduce the risk of compliance obligation default in cases where a CO_2 Budget Source ceases operation. It will also provide certainty to DNREC that the CO_2 Budget Sources are accumulating enough CO_2 allowances to cover their CO_2 emissions.

C. Cost Containment Reserve

DNREC is proposing the creation and use of a cost containment reserve (CCR) that will provide flexibility and cost containment for the program. DNREC will allocate allowances to the Delaware Auction Account. The CCR will consist of a fixed quantity of allowances, in addition to the cap, that would be held in reserve, only to be made available for sale if allowance prices exceed predefined price levels.

There will be an annual limit on the quantity of allowances that can be withdrawn from the CCR. In 2014, the annual limit will be 5 million allowances. The annual limit in 2015 and beyond will be 10 million allowances. The CCR allowances will be made available immediately in any auction in which demand for allowances at prices above the CCR trigger price exceeds the supply of allowances offered for sale in that auction prior to the addition of any CCR allowances. If the CCR is triggered, the CCR allowances will only be sold at or above the CCR trigger price. The CCR Trigger Prices are proposed to be:

Table 2. CCR Trigger Prices

Year	2014	2015	2016	2017
CCR Trigger Prices	$4	$6	$8	$10

Each year after 2017, the CCR trigger price will increase by 2.5 percent. Allowances from the CCR will be fully fungible and can be used for compliance in any of the RGGI states. The CCR will be populated with allowances from each of the participating states in a proportion equal to each respective state's portion of the overall regional emissions budget (the regional cap). The proposed size of the CCR and the proposed CCR Trigger Prices were determined based upon a series of iterative modeling runs. The CCR size and CCR Trigger Prices are intended to balance cost control (mitigation of short term price spikes) and the overall environmental integrity of the regional emissions cap.

The CCR is being proposed to simplify and improve the cost containment mechanism for the program. The CCR will provide the ability for an immediate injection of additional allowances in the next quarterly auction in the event price triggers are exceeded. This addresses the concern expressed by stakeholders that the current cost containment mechanism (expansion of the percent of offset allowances allowable to demonstrate compliance) would be slow to react and ineffective.

D. Offset Allowances

DNREC is proposing to replace the existing Afforestation offset category with a new offset category known as "Sequestration of carbon due to reforestation, improved forest management or avoided conversion." DNREC intends to incorporate by reference the RGGI U.S. Forests Offset Protocol which has been developed by the participating states, based mainly on the California Air Resources Board (CARB) U.S. Forests Offset Protocol. This protocol includes:

- Improved Forest Management;
- Avoided Conversion; and
- Reforestation.

DNREC is proposing the new offset category to expand the options for compliance, provide incentives for best practices in the forestry sector, and to be more consistent with the California Forests Offset Protocol.

E. Undistributed and Unsold CO_2 Allowances

DNREC is proposing to adopt the Model Rule language that provides the ability to retire undistributed and unsold allowances at the end of each control period, subject to each state's statutory and/or administrative process.

IV. ADMINISTRATIVE AND MINOR TECHNICAL AMENDMENTS

DNREC is proposing to eliminate the Early Reduction Allowance (ERA) provisions since the window of time to create ERAs has expired.

DNREC is proposing a minimum reserve price in calendar year 2014 of $2.00. Each calendar year thereafter the reserve price will increase by 2.5 percent. This fixed percentage increase will replace the Consumer Price Index inflation adjustment in the current rule.

DNREC is proposing to update all documents that are incorporated by reference in the existing 7 DE Admin Code 1147.

Lastly, DNREC is proposing to make other technical changes to the existing 7 DE Admin Code 1147 to improve consistency with the Model Rule. These technical changes include:

- DNREC is proposing to eliminate the language (section 5.3.4 of 7 DE Admin. Code 1147) that set-aside CO_2 allowances for limited industrial exemptions.

- DNREC is proposing to eliminate the language (section 5.3.1 of 7 DE Admin. Code 1147) that allows free allocation of CO_2 allowances. 100% of allowances will be offered at auction beginning 2014 as per the Delaware Code[11].

- DNREC is proposing to eliminate the word "quarterly" in section 11.5.2 of 7 DE Admin. Code 1147. Auctions will be held as often as practical.

V. ECONOMIC IMPACTS

The nine participating states contracted through RGGI Inc., to hire the ICF consulting firm to use its Integrated Planning Model (IPM) to project electricity sector and economic impacts of numerous proposed potential policy change scenarios. Impacts of these potential policy change scenarios were compared against the current RGGI program. Sensitivity analyses were conducted to examine impacts resulting from changes in key input variables such as relative fuel prices, and electricity load projections. The IPM model outputs were then used as inputs to economic analyses including REMI macroeconomic modeling and customer bill impact analyses. The REMI modeling showed regional economic impacts (cumulative change in Gross State Product, cumulative change in employment, and cumulative change in real personal income) resulting from the 91 million ton cap beginning in 2014 to be slightly positive.

IPM modeling results are available at the RGGI Website at:
http://rggi.org/design/program_review/materials_by_topic/ipm_modeling

REMI modeling results are available at the RGGI Website at:
http://rggi.org/docs/ProgramReview/February11/13_02_11_REMI.pdf

[11] http://delcode.delaware.gov/title7/c060/sc02a/index.shtml .

VI. SMALL BUSINESS IMPACT STATEMENT

The proposed regulations are expected to have a slightly positive impact on small businesses. Bill impact analysis conducted estimated that the average commercial customer monthly electric bill of $393 would decrease by $1.37 (0.3%).

VII. STAKEHOLDER PARTICIPATION

Two workgroup meetings were held with stakeholders to discuss the amendments to the RGGI Model Rule as well as get stakeholder feedback. The first meeting was held on May 14, 2013. This meeting included a presentation on the updated RGGI Model Rule design elements as well as the economic modeling that was performed by RGGI Inc. to support program modifications. The discussion was opened to stakeholders regarding Delaware specific amendments. NRG, a RGGI stakeholder, had some recommendations regarding set-aside allowances.

NRG's recommendations were presented in the next workgroup meeting, which was held on June 18, 2013. A copy of NRG's recommendation can be viewed on DNREC's website at: http://www.dnrec.delaware.gov/Air/Pages/RegionalGreenhouseGasInitiative.aspx. NRG recommended the following:

- The compliance obligation that applied to the Delaware City Refinery as stated in section 1.2.3.1 of 7 DE Admin. Code 1147should be expanded to include all electric generating facilities in Delaware.

- The CO_2 compliance requirement should apply to tons of CO_2 associated with net electrical generation as opposed to gross electrical generation as stated in section 1.2.3.1 of 7 DE Admin. Code 1147.

- Sets-aside allowances as allowed by section 5.3.9 of 7 DE Admin. Code 1147 (Limited Industrial Set-aside), should be made available to all electric generating facilities.

After considering NRG's recommendations, DNREC has chosen not to incorporate them into Delaware's *CO_2 Budget Trading Program* because DNREC does not believe they will further the program's objective of reducing CO_2 emissions from electric generating units for the following reason:

- The purpose of section 1.2.3.1 is to provide compliance requirements to units under section 1.2.2 (Limited Exemption). Under section 1.2.2, Delaware City refinery has a permit condition that restricts the supply of its annual electrical output to the electric grid to less than or equal to 10 percent of its annual gross generation. Since electric generating facilities are not petroleum refineries, section 1.2.3.1 does not apply to them.

- The primary objective of the CO_2 budget trading program is to reduce CO_2 emissions from electric generating facilities. Amending the compliance requirement to apply to net electrical generation as opposed to gross electrical generation will only reduce the burden of compliance. It will not incentivize further reductions in CO_2 emissions.

- The limited industrial set aside allowances can only be made available to a petroleum refinery with permit conditions restricting their annual electrical output. Electric generating facilities in Delaware do not have permit conditions that restrict their electrical output. Furthermore, additional proceeds generated by auctioning the set aside allowances will be better spent on energy efficiency and GHG reduction, which is in line with the objective of the program.

VIII. PUBLIC PARTICIPATION

DNREC held a public workshop on July 24, 2013 to educate the public on the amendments made to the RGGI's Model Rule as they apply to Delaware's CO_2-Budget Trading Program. DNREC gave public notice on August 18 prior to holding the public hearing to provide an opportunity to review the proposed amendments. The public hearing notice, proposed regulations and background documents will be made available on DNREC's website at:
http://www.dnrec.delaware.gov/Air/Pages/RegionalGreenhouseGasInitiative.aspx

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