



STATE OF DELAWARE  
DEPARTMENT OF NATURAL RESOURCES  
AND ENVIRONMENTAL CONTROL  
89 KINGS HIGHWAY  
DOVER, DELAWARE 19901

Office of the  
Secretary

Phone: (302) 739-9000  
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**Secretary's Order No.: 2018-A-0061**

**RE:            Approving Final Regulations to Amend 7 DE Admin. Code 1147:  
                  *CO<sub>2</sub> Budget Trading Program ("RGGI Regulations")***

**Date of Issuance: November 8, 2018**

**Effective Date of the Amendment: December 11, 2018**

Under the authority vested in the Secretary of the Department of Natural Resources and Environmental Control ("Department" or "DNREC"), pursuant to 7 *Del.C.* §§6006 and 6010, and all other relevant statutory authority, the following findings of fact based on the record, reasons and conclusions are entered as an Order of the Secretary in the above-referenced regulatory proceeding.

**Background, Procedural History and Findings of Fact**

This Order relates to proposed regulation amendments ("Amendments") to 7 DE Admin. Code 1147: *CO<sub>2</sub> Budget Trading Program ("RGGI Regulations")*. This action is being taken by the Department to align Delaware's CO<sub>2</sub> Budget Trading Program to be consistent with the Regional Greenhouse Gas Initiative's Updated Model Rule, as amended December 2017 ("Updated Model Rule").

The Regional Greenhouse Gas Initiative (“RGGI”) is a cooperative effort of nine Northeast and Mid-Atlantic states to regulate and reduce carbon dioxide emissions from the power sector. In accordance with each state’s independent legal authority, Connecticut, Delaware, Maine, Massachusetts, Maryland, New Hampshire, New York, Rhode Island, and Vermont (“Participating States”) have each committed to propose statutory and/or regulatory approval revisions to their CO<sub>2</sub> Budget Trading Programs, substantially consistent with the aforementioned Updated Model Rule.

The CO<sub>2</sub> Budget Trading Program was established in 2005 by the Participating States through a Memorandum of Understanding (“MOU”). This MOU outlined the RGGI program design elements, and directed each Participating State to develop a Model Rule for use in their state-specific rule-making processes. The design elements in this MOU were then incorporated into the Model Rule. The 2005 program design elements included the level of the regional emissions cap, the apportionment of each state’s portion of that regional cap, the schedule for reductions in the cap through 2018, a three-year compliance period for compliance entities, provisions for offsets (which are the reductions in greenhouse gases from sources outside the electric-generating sector), and the establishment of the first program review, which occurred in 2012. Delaware’s RGGI regulations, initially promulgated by DNREC in 2008, established a compliance obligation on fossil fuel-fired electricity generating units with capacities greater than 25 megawatts to report their CO<sub>2</sub> emissions and surrender the corresponding CO<sub>2</sub> allowances for those emissions.

The Department’s authority that was established for Delaware’s RGGI regulations is found at 7 *Del.C.* §§6043-6046, whereby the General Assembly explicitly authorizes and sanctions prior and ongoing participation of both the DNREC Cabinet Secretary and the Chair of the Public Service Commission, and their duly authorized representatives, to implement and participate in the Regional Greenhouse Gas Initiative. Moreover, the DNREC Cabinet Secretary is further authorized therein to promulgate regulations to implement the RGGI cap-and-trade program, consistent with the aforementioned MOU.

Specifically, 7 *Del.C.* §6043(a)(9) provides as follows: (1) the MOU sets an initial emissions cap of 7,559,787 of short tons of CO<sub>2</sub> for the State of Delaware; (2) a minimum of twenty-five percent (25%) of Delaware's allocation of the CO<sub>2</sub> allowances under the RGGI cap-and-trade program to be used for public benefit purposes; and (3) the cap and Delaware's allocation may be adjusted in the future.

As called for in the RGGI 2012 Program Review, the Participating States conducted a second program review, now known as the RGGI 2016 Program Review. The RGGI 2016 Program Review was a rigorous and comprehensive evaluation supported by an extensive regional stakeholder process that engaged the regulated community, environmental non-profit organizations, industry advocates, and other interested stakeholders. The Participating States have been working with program review stakeholders since 2015, convening nine stakeholder meetings and webinars. Delaware hosted one of those stakeholder meetings in Wilmington, Delaware on February 22, 2016. The program review has sought to ensure RGGI's continued success, effectively reducing CO<sub>2</sub> emissions while providing benefits to consumers in the region.

The Department's proposed regulatory amendments to 7 DE Admin. Code 1147 would implement the program changes presented in the Updated Model Rule and the 2016 Program Review Principles. These changes were agreed upon by the Participating States after the aforementioned comprehensive two-year program review. The purpose of the Updated Model Rule is to serve as a template for similar modifications to each of the Participating States' existing CO<sub>2</sub> trading programs.

The above-referenced modifications strengthen the RGGI program, make it more effective, and realign the regional cap with current emission levels, which are significantly lower than the current regional levels. The proposed changes include the following:

(1) A reduction in the regional CO<sub>2</sub> budget ("the RGGI cap") for years 2021 through 2030, and for each succeeding year thereafter;

(2) Adjustments to the RGGI cap in years 2014 through 2020 to account for the private bank of allowances;

- (3) Adjustments to the size of the Cost Containment Reserve (“CCR”) to an annual quantity of ten percent (10%) of the State’s budget, beginning in 2021;
- (4) Modifications to the CCR trigger price to \$13.00 beginning in 2021 and rising by 7% each year thereafter;
- (5) The establishment of an Emission Containment Reserve to respond to supply and demand in the market if emission reduction costs are lower than projected, beginning in 2021;
- (6) Updates to the RGGI offsets program and removal of two protocols, or offset categories, for SF6 and End-Use Energy Efficiency; and
- (7) Numerous administrative changes and updates, including updates to all documents that are incorporated by reference in the updated model log.

The Department, along with the other Participating States, also conducted macroeconomic modeling and customer bill analysis in 2017, in order to determine the impacts of the proposed regulatory amendments. Specifically, the Participating States contracted through RGGI, Inc., to hire ICF, a consulting firm, to use its Integrated Planning Model (“IPM”) to project electricity sector and economic impacts of the numerous proposed potential policy change scenarios. The impacts of these scenarios were then compared against the current RGGI program.

Sensitivity analyses were also conducted to examine impacts resulting from changes to key input variables, such as relative fuel prices and electricity load projections. The IPM outputs were then used as inputs to the economic analyses, including Regional Economic Models, Inc. (“REMI”)’s macroeconomic modeling and customer bill impact analyses<sup>1</sup>. The REMI model showed that the regional economic impacts (which are the cumulative change in Gross State Product, cumulative change in employment, and cumulative change in real personal income) will result in positive impacts for all electricity ratepayers (actually causing billing to be lower), beginning in 2021.

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<sup>1</sup> Regional Economic Models, Inc., is a dynamic forecasting and policy analysis tool used throughout the world for a wide range of topic areas, including economic development, the environment, energy, transportation, and taxation, forecasting, and planning. See [http://ledsgp.org/resource/regional-economic-models-inc/?loclang=en\\_gb](http://ledsgp.org/resource/regional-economic-models-inc/?loclang=en_gb)

The Department has the statutory basis and legal authority to act with regard to promulgation of the proposed amendments to 7 DE Admin. Code 1147: *CO<sub>2</sub> Budget Trading Program*, pursuant to 7 Del. C. Ch. 60, specifically, at §§6043-6046. The Department published its initial proposed regulation Amendments in the August 1, 2018 *Delaware Register of Regulations*. Thereafter, the public hearing regarding this matter was held on August 29, 2018.

It should be noted that, subsequent to the initial proposed regulatory Amendments having been published in the *Delaware Register of Regulations* on August 1, 2018, but prior to the public hearing held on August 29, 2018, numerous clerical errors were found by the Department in the initial proposed Amendments. The Division of Air Quality provided errata handouts for those in attendance at the aforementioned hearing, which charted all of the errors contained within the initial proposed Amendments, and then illustrated the corrected language being made to the same. This errata chart was fully vetted to the public at the time of the hearing, and was also placed on the Department's website page fully dedicated to this proposed regulatory promulgation. Given this, no additional public vetting or re-publication of the Department's proposed *revised* Amendments is required in this matter.

Members of the public attended the aforementioned public hearing, with comment being received by the Department at that time. Given the amount of interest concerning this regulatory promulgation, the record remained open for thirty (30) additional days (as opposed to the standard fifteen-day period) subsequent to the date of the public hearing for receipt of public comment. The hearing record formally closed for comment in this matter at close of business on September 28, 2018, with additional comment having been received by the Department during the post-hearing phase of this formal promulgation.

After the close of the comment period, the Department performed a thorough review of the hearing record, including all of the comments received on the proposed Amendments. The full range of comments contained in the formal hearing record includes not only those from members of the public, but from other contributors as well, such as the Delaware Electric Cooperative, Sierra Club, the Caesar Rodney Institute, and the State of Delaware House of Representatives.

It should be noted that all notification and noticing requirements concerning this matter were met by the Department. Proper notice of the hearing was provided as required by law.

At the request of the presiding Hearing Officer, a Technical Response Memorandum (“TRM”) was prepared by the Department’s Division of Air Quality staff to serve as a comprehensive summary of the comment received in this matter. The Department’s TRM not only provides a thorough discussion of the comment received in this matter, but also provides the Department’s responses and recommendations concerning the same.

Hearing Officer Vest prepared a Hearing Officer’s Report dated November 2, 2018 (“Report”), which expressly incorporated both the Department’s proposed *revised* Amendments and the aforementioned TRM into the hearing record generated in this matter. The Report documents the proper completion of the required regulatory amendment process, establishes the record, and recommends the adoption of the proposed *revised* Amendments as attached to the Report as Appendix “A.”

### **Reasons and Conclusions**

Based on the record developed by the Department’s experts and established by the Hearing Officer’s Report, I find that the proposed *revised* regulatory amendments to 7 DE Admin. Code 1147: *CO<sub>2</sub> Budget Trading Program*, are well-supported. Therefore, the recommendations of the Hearing Officer are hereby adopted, and I direct that the proposed *revised* Amendments be promulgated as final. I further find that the Department’s experts in the Division of Air Quality fully developed the record to support adoption of these *revised* Amendments.

In conclusion, the following reasons and conclusions are entered:

1. The Department has the statutory basis and legal authority to act with regard to the proposed *revised* Amendments to 7 DE Admin. Code 1147: *CO<sub>2</sub> Budget Trading Program*, pursuant to 7 *Del. C.* §§6043-6046;
2. The Department has jurisdiction under its statutory authority, pursuant to 7 *Del.C.* Ch. 60, to issue an Order adopting these proposed *revised* Amendments as final;
3. The Department provided adequate public notice of the initial proposed Amendments and all proceedings in a manner required by the law and regulations, provided the public with an adequate opportunity to comment on the proposed *revised* Amendments, including at the time of the public hearing held on August 29, 2018, and during the 30 days subsequent to the hearing (through September 28, 2018), before making any final decision;
4. Promulgation of the proposed *revised* Amendments to 7 DE Admin. Code 1147: *CO<sub>2</sub> Budget Trading Program*, will enable the Department to align Delaware's CO<sub>2</sub> Budget Trading Program to be consistent with the Regional Greenhouse Gas Initiative's Updated Model Rule, as amended December 2017, as referenced above;
5. The Department has reviewed the proposed *revised* Amendments in the light of the Regulatory Flexibility Act, consistent with 29 *Del.C.* Ch. 104, and has selected Exemption "A," as this regulation will not apply to small businesses or individuals at all;
6. The Department's Hearing Officer's Report, including its established record and the recommended proposed *revised* Amendments as set forth in Appendix "A," are hereby adopted to provide additional reasons and findings for this Order;
7. The Department's proposed regulatory Amendments, as initially published in the August 1, 2018 *Delaware Register of Regulations*, and then as *revised*, as set forth in Appendix "A" hereto, are adequately supported, are not arbitrary or capricious, and are consistent with the applicable laws and regulations. Consequently, they should be approved as final regulatory Amendments, which shall go into effect ten days after their publication in the next available issue of the *Delaware Register of Regulations*; and

8. The Department shall submit the proposed *revised* Amendments as final regulatory amendments to 7 DE Admin. Code 1147: *CO<sub>2</sub> Budget Trading Program*, to the *Delaware Register of Regulations* for publication in its next available issue, and provide such other notice as the law and regulation require and the Department determines is appropriate.



Shawn M. Garvin  
Secretary

## MEMORANDUM

**TO:** The Honorable Shawn M. Garvin  
Cabinet Secretary, Dept. of Natural Resources and Environmental Control

**FROM:** Lisa A. Vest *lav*  
Public Hearing Officer, Office of the Secretary  
Department of Natural Resources and Environmental Control

**RE:** **Proposed Regulation Amendments to 7 DE Admin. Code 1147:  
*CO<sub>2</sub> Budget Trading Program ("RGGI Regulations")***

**DATE:** November 2, 2018

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### **I. Background:**

A public hearing was held on Wednesday, August 29, 2018, at 6:00 p.m. at the Department of Natural Resources and Environmental Control ("DNREC," "Department"), Richardson and Robbins Building, 89 Kings Highway, Dover, Delaware to receive comment on proposed amendments ("Amendments") to 7 DE Admin. Code 1147: *CO<sub>2</sub> Budget Trading Program ("RGGI Regulations")*. The Department is proposing this regulatory promulgation to align Delaware's CO<sub>2</sub> Budget Trading Program to be consistent with the Regional Greenhouse Gas Initiative's Updated Model Rule, as amended December 2017 ("Updated Model Rule").

The Regional Greenhouse Gas Initiative ("RGGI") is a cooperative effort of nine Northeast and Mid-Atlantic states to regulate and reduce carbon dioxide emissions from the power sector. In accordance with each state's independent legal authority, Connecticut, Delaware, Maine, Massachusetts, Maryland, New Hampshire, New York, Rhode Island, and Vermont ("Participating States") have each committed to propose statutory and/or regulatory approval revisions to their CO<sub>2</sub> Budget Trading Programs, substantially consistent with the aforementioned Updated Model Rule.

The CO<sub>2</sub> Budget Trading Program was established in 2005 by the Participating States through a Memorandum of Understanding (“MOU”). This MOU outlined the RGGI program design elements and directed each Participating State to develop a Model Rule for use in their state-specific rule-making processes. The design elements in this MOU were then incorporated into the Model Rule. The 2005 program design elements included the level of the regional emissions cap, the apportionment of each state’s portion of that regional cap, the schedule for reductions in the cap through 2018, a three-year compliance period for compliance entities, provisions for offsets (which are the reductions in greenhouse gases from sources outside the electric-generating sector), and the establishment of the first program review, which occurred in 2012. Delaware’s RGGI regulations, initially promulgated by DNREC in 2008, established a compliance obligation on fossil fuel-fired electricity generating units with capacities greater than 25 megawatts to report their CO<sub>2</sub> emissions and surrender the corresponding CO<sub>2</sub> allowances for those emissions.

The Department’s authority that was established for Delaware’s RGGI regulations is found at 7 *Del.C.* §§6043-6046, whereby the General Assembly explicitly authorizes and sanctions prior and ongoing participation of both the DNREC Cabinet Secretary and the Chair of the Public Service Commission, and their duly authorized representatives, to implement and participate in the Regional Greenhouse Gas Initiative. Moreover, the DNREC Cabinet Secretary is further authorized therein to promulgate regulations to implement the RGGI cap-and-trade program, consistent with the aforementioned MOU.

Specifically, 7 *Del.C.* §6043(a)(9) provides as follows: (1) the MOU sets an initial emissions cap of 7,559,787 of short tons of CO<sub>2</sub> for the State of Delaware; (2) a minimum of twenty-five percent (25%) of Delaware’s allocation of the CO<sub>2</sub> allowances under the RGGI cap-and-trade program to be used for public benefit purposes; and (3) the cap and Delaware’s allocation may be adjusted in the future.

As called for in the RGGI 2012 Program Review, the Participating States conducted a second program review, now known as the RGGI 2016 Program Review. The RGGI 2016 Program Review was a rigorous and comprehensive evaluation supported by an extensive regional stakeholder process that engaged the regulated community, environmental non-profit organizations, industry advocates, and other interested stakeholders. The Participating States have been working with program review stakeholders since 2015, convening nine stakeholder meetings and webinars. Delaware hosted one of those stakeholder meetings in Wilmington, Delaware on February 22, 2016. The program review has sought to ensure RGGI's continued success, effectively reducing CO<sub>2</sub> emissions while providing benefits to consumers in the region.

The Department's proposed regulatory amendments to 7 DE Admin. Code 1147 would implement the program changes presented in the Updated Model Rule and the 2016 Program Review Principles. These changes were agreed upon by the Participating States after the aforementioned comprehensive two-year program review. The purpose of the Updated Model Rule is to serve as a template for similar modifications to each of the Participating States' existing CO<sub>2</sub> trading programs.

The above-referenced modifications strengthen the RGGI program, make it more effective, and realign the regional cap with current emission levels, which are significantly lower than the current regional levels. The proposed changes include the following:

- (1) A reduction in the regional CO<sub>2</sub> budget ("the RGGI cap") for years 2021 through 2030, and for each succeeding year thereafter;
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(6) Updates to the RGGI offsets program and removal of two protocols, or offset categories, for SF6 and End-Use Energy Efficiency; and

(7) Numerous administrative changes and updates, including updates to all documents that are incorporated by reference in the updated model log.

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As noted above, the Department has the statutory basis and legal authority to act with regard to promulgation of the proposed amendments to 7 DE Admin. Code 1147: *CO<sub>2</sub> Budget Trading Program*, pursuant to 7 Del. C. Ch. 60, specifically, at §§6043-6046. The Department published its initial proposed regulation Amendments in the August 1, 2018 *Delaware Register of Regulations*. Thereafter, the public hearing regarding this matter was held on August 29, 2018. Members of the public attended the aforementioned public hearing, with comment being received by the Department at that time. Given the amount of interest concerning this regulatory promulgation, the record remained open for thirty (30) additional days (as opposed to the standard fifteen-day period) subsequent to the date of the public hearing for receipt of public comment. The hearing record formally closed for comment in this matter at close of business on September 28, 2018, with additional comment having been received by the Department during the post-hearing phase of this formal promulgation.

After the comment period formally closed on September 28, 2018, the Department performed a thorough review of the record, including all of the comments received on the proposed Amendments. The full range of comments contained in the formal hearing record includes not only those from members of the public, but from other contributors as well, such as the Delaware Electric Cooperative, Sierra Club, the Caesar Rodney Institute, and the State of Delaware House of Representatives. It should be noted that all notification and noticing requirements concerning this matter were met by the Department. Proper notice of the hearing was provided as required by law.

## **II. SUMMARY OF THE PUBLIC HEARING RECORD:**

The public hearing record consists of the following documents: (1) a verbatim transcript; (2) twenty-eight (28) documents introduced by Department staff at the public hearing held on August 29, 2018, and marked by this Hearing Officer accordingly as Department Exhibits 1-28; and (3) Technical Response Memorandum (“TRM”) provided to this Hearing Officer by Valerie Gray, Planning Supervisor with the Department’s Division of Air Quality, dated October 15, 2018.

The Department's person primarily responsible for the drafting and overall promulgation of these proposed Amendments, Ms. Gray, developed the record with the relevant documents in the Department's files.

It should be noted that, subsequent to the initial proposed regulatory Amendments having been published in the *Delaware Register of Regulations* on August 1, 2018, but prior to the public hearing held on August 29, 2018, numerous clerical errors were found by the Department in the initial proposed Amendments. The Division of Air Quality provided errata handouts for those in attendance at the aforementioned hearing, which charted all of the errors contained within the initial proposed Amendments, and then illustrated the corrected language being made to the same. This errata chart was fully vetted to the public at the time of the hearing, and was also placed on the Department's website page fully dedicated to this proposed regulatory promulgation. Given this, no additional public vetting or re-publication of the Department's *revised* proposed Amendments is required in this matter.

As stated previously, members of the public attended the aforementioned August 29, 2018 hearing. A significant amount of comment was received by the Department concerning this proposed regulatory action, not only at the time of the hearing itself, but also during both the pre-hearing and post-hearing phases of this promulgation. At the request of this Hearing Officer, a Technical Response Memorandum ("TRM") was prepared by the Department's Division of Air Quality staff to serve as a comprehensive summary of the comment received in this matter. The Department's TRM not only provides a thorough discussion of the comment received in this matter, but also provides the Department's responses and recommendations concerning the same. Accordingly, the Department's proposed *revised* Amendments, along with the aforementioned TRM, are hereby expressly incorporated into the hearing record generated in this matter, and are attached hereto for the Secretary's review as Appendices "A" and "B," respectively.

Again, no further re-noticing or re-publication of the Department's proposed *revised* Amendments is necessary in this matter, due to the fact that (1) all substantive changes were made prior to (and vetted at) the public hearing of August 29, 2018, and (2) no further changes were made subsequent to that time.

### **III. RECOMMENDED FINDINGS AND CONCLUSIONS:**

Based on the record developed, I find and conclude that the Department has provided appropriate reasoning regarding the need for the proposed *revised* amendments to 7 DE Admin. Code 1147: *CO<sub>2</sub> Budget Trading Program*, as noted above. Accordingly, I recommend promulgation of the same, in the customary manner provided by law.

Further, I recommend the Secretary adopt the following findings and conclusions:

1. The Department has the statutory basis and legal authority to act with regard to the proposed *revised* Amendments to 7 DE Admin. Code 1147: *CO<sub>2</sub> Budget Trading Program*, pursuant to 7 Del. C. §§6043-6046;
2. The Department has jurisdiction under its statutory authority, pursuant to 7 Del.C. Ch. 60, to issue an Order adopting these proposed *revised* Amendments as final;
3. The Department provided adequate public notice of the initial proposed Amendments and all proceedings in a manner required by the law and regulations, provided the public with an adequate opportunity to comment on the proposed *revised* Amendments, including at the time of the public hearing held on August 29, 2018, and during the 30 days subsequent to the hearing (through September 28, 2018), before making any final decision;
4. Promulgation of the proposed *revised* Amendments to 7 DE Admin. Code 1147: *CO<sub>2</sub> Budget Trading Program*, will enable the Department to align Delaware's CO<sub>2</sub> Budget Trading Program to be consistent with the Regional Greenhouse Gas Initiative's Updated Model Rule, as amended December 2017, as referenced above;

5. The Department has reviewed the proposed *revised* Amendments in the light of the Regulatory Flexibility Act, consistent with 29 *Del.C.* Ch. 104, and has selected Exemption “A,” as this regulation will not apply to small businesses or individuals at all;

6. The Department’s proposed regulatory Amendments, as initially published in the August 1, 2018 *Delaware Register of Regulations*, and then as *revised*, as set forth in Appendix “A” hereto, are adequately supported, are not arbitrary or capricious, and are consistent with the applicable laws and regulations. Consequently, they should be approved as final regulatory Amendments, which shall go into effect ten days after their publication in the next available issue of the *Delaware Register of Regulations*; and

7. The Department shall submit the proposed *revised* Amendments as final regulatory amendments to 7 DE Admin. Code 1147: *CO<sub>2</sub> Budget Trading Program*, to the *Delaware Register of Regulations* for publication in its next available issue, and provide such other notice as the law and regulation require and the Department determines is appropriate.



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LISA A. VEST  
Public Hearing Officer

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Attachments/Appendix:  
Appendix A: *Revised* Proposed Reg. Amendments  
Appendix B: DAQ TRM (10/15/18)

## **APPENDIX “A”**



DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL  
DIVISION OF AIR QUALITY  
Air Quality Management Section

1147 CO<sub>2</sub> Budget Trading Program

12/11/13XX/XX/XX

**1.0 CO<sub>2</sub> Budget Trading Program General Provisions**

**1.1 Purpose**

This Regulation establishes the State of Delaware component of the CO<sub>2</sub> Budget Trading Program, which is designed to stabilize and then reduce anthropogenic emissions of CO<sub>2</sub>, a greenhouse gas, from CO<sub>2</sub> budget sources in an economically efficient manner.

**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 CO<sub>2</sub> budget unit and any source that includes one or more such units shall be a CO<sub>2</sub> budget source, subject to the requirements of this regulation.

**1.2.2 Limited exemption for units with electrical output to the electric grid restricted by permit conditions.**

1.2.2.1 *Applicability.* Notwithstanding subsection 1.2.1 of this regulation, a unit under subsection 1.2.1 of this regulation that is covered by a permit issued pursuant to 7 DE Admin Code 1102 or 1130 containing a practically enforceable condition restricting 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 which complies with the provisions in subsection 1.2.2.3 of this regulation, shall be exempt from the requirements of Regulation 1147, except for the provisions subsections 1.3, 1.4, 1.6 of this regulation.

1.2.2.2 *Effective date.* The exemption under subsection 1.2.2.1 of this regulation shall become effective as of the January 1 that is on or after the date on which the restriction on the percentage of annual gross generation that may be supplied to the electric grid and the provisions in the permit required under subsection 1.2.2.1 of this regulation become final.

1.2.2.3 *Compliance.*

1.2.2.3.1 A unit exempt under subsection 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 subsection 1.2.2.1 of this regulation.

1.2.2.3.2 A unit exempt under subsection 1.2.2.1 of this regulation shall report to the Department the amount of annual gross generation and the amount of annual gross generation supplied to the electric grid during the year by the following February 1.

1.2.2.3.3 For a period of 10 years from the date the records are created, the owners and operators of a unit exempt under subsection 1.2.2.1 of this regulation shall retain, at the source that includes the unit, records demonstrating that the

conditions of the permit under subsection 1.2.2.1 of this regulation were met. The 10-year period for keeping records may be extended for cause, at any time prior to the end of the period, in writing by the Department. The owners and operators bear the burden of proof that the unit met the restriction on the percentage of annual gross generation that may be supplied to the electric grid.

1.2.2.3.4 The owners and operators and, to the extent applicable, the CO<sub>2</sub> authorized account representative of a unit exempt under subsection 1.2.2.1 of this regulation shall comply with all the requirements of this regulation concerning all time periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.

1.2.2.3.5 On the earlier of the following dates, a unit exempt under subsection 1.2.2.1 of this regulation shall lose its exemption:

1.2.2.3.5.1 the date on which the restriction on the percentage of annual gross generation that may be supplied to the electric grid described in subsection 1.2.2.1 of this regulation is removed from the unit's permit or otherwise becomes no longer applicable in any year that commences on or after January 1, 2009; or

1.2.2.3.5.2 the first date on which the unit fails to comply, or on which the owners and operators fail to meet their burden of proving that the unit is complying, with the restriction on the percentage of annual gross generation that may be supplied to the electric grid described in subsection 1.2.2.1 of this regulation during any year that commences on or after January 1, 2009.

1.2.2.3.6 A unit that loses its exemption in accordance with subsection 1.2.2.3.5 of this regulation shall be subject to the requirements of Regulation 1147. For the purpose of applying permitting requirements under Section 3.0 of this regulation, and applying monitoring requirements under Section 8.0 of this regulation, the unit shall be treated as commencing operation on the date the unit loses its exemption.

### **1.2.3 Requirements for any CO<sub>2</sub> Budget Source that is a petroleum refinery.**

1.2.3.1 Applicability. Notwithstanding subsection 1.2.1 of this regulation, a CO<sub>2</sub> budget source under subsection 1.2.1 of this regulation that is a petroleum refinery may elect to participate in the CO<sub>2</sub> budget trading program by securing a permit issued pursuant to 7 **DE Admin. Code** 1102 or 1130 that contains practically enforceable conditions that require compliance with all of the provisions of this regulation, except "CO<sub>2</sub> budget emissions limitation" shall mean for a CO<sub>2</sub> budget source, the tonnage equivalent, in CO<sub>2</sub> emissions associated with the gross electrical generation output to the electric grid in a control period from all CO<sub>2</sub> Budget Units at the CO<sub>2</sub> Budget Source, of the CO<sub>2</sub> allowances available for compliance deduction for the source for a control period; and the amount of CO<sub>2</sub> allowances required to be held pursuant to subsection 1.5.3.1, and deducted pursuant to subsection 6.5.2.1 of this regulation shall include only the number of tons of total CO<sub>2</sub> emissions associated with gross generation output to the electric grid.

1.2.3.2 Effective date. The requirements of subsection 1.2.3.1 of this regulation shall become effective as of January 1 of the year that the permit required under subsection 1.2.3.1 of this regulation becomes final.

1.2.2-3.2 Compliance. For the purpose of applying permitting requirements under Section 3.0 of this regulation, and applying monitoring requirements under Section 8.0 of this regulation, the unit shall be treated as commencing operation on the date the permit required under subsection 1.2.3.1 of this regulation becomes final.

### 1.3 Definitions.

The following terms, when used in this regulation, shall have the following meanings unless the context clearly indicates otherwise. Terms used but not defined herein shall have the meanings given them in 7 DE Admin Code 1101 or the Clean Air Act as amended in 1990, in that order of:

**“Account number”** means the identification number given by the Department or its agent to each CO<sub>2</sub> Allowance Tracking System account.

**“Acid rain emissions limitation”** means as defined in 40 CFR 72.2, a limitation on emissions of sulfur dioxide or nitrogen oxides under the Acid Rain Program under title IV of the Clean Air Act.

**“Acid Rain Program”** means a multi-state sulfur dioxide and nitrogen oxides air pollution control and emission reduction program established by the Administrator under title IV of the CAA and 40 CFR 72 through 78.

**“Administrator”** means the Administrator of or the United States Environmental Protection Agency or the Administrator’s authorized representative.

**“Allocate or allocation”** means the determination by the Department of the number of CO<sub>2</sub> allowances to be recorded in the compliance account of a CO<sub>2</sub> budget unit, an allocation set-aside account, the consumer benefit or strategic energy purpose account, or the general account of the sponsor of an approved CO<sub>2</sub> emissions offset project.

**“Allocation year”** means a calendar year for which the Department allocates or awards CO<sub>2</sub> allowances pursuant to Sections 5.0 and 10.0 of this regulation. The allocation year of each CO<sub>2</sub> allowance is reflected in the unique identification number given to the allowance pursuant to subsection 6.4.5 of this regulation.

**“Allowance auction or auction”** means an auction in which the Department offers CO<sub>2</sub> allowances for sale.

**“Anaerobic digester”** means a device that promotes the decomposition of organic material to simple organics and gaseous biogas products, usually accomplished by means of controlling temperature and volume, and including a methane recovery system.

**“Anaerobic digestion”** means the degradation of organic material including manure brought about through the action of microorganisms in the absence of elemental oxygen.

**“Anaerobic storage”** means storage of organic material in an oxygen-free environment, or under oxygen-free conditions, including but not limited to, holding tanks, ponds, and lagoons.

**“Ascending Price, Multiple Round Auction”** means a multiple round auction starting with an opening price with increases each round by predetermined increments. In each round, bidders offer the quantity they are willing to purchase at the posted price. Rounds continue so long as demand exceeds the quantity offered for sale. At the completion of the final round, allowances may be allocated, subject to subsection 11.5 of this regulation:

- (1) At the final price to remaining bidders and withhold unsold allowances for a future auction, or
- (2) At the penultimate price, first to final round bidders and then to bidders in the penultimate round in chronological order of bid during the penultimate round for all remaining allowances, or
- (3) According to an alternative mechanism designed to effectuate the objectives of this section.

**“Attribute”** means a characteristic associated with electricity generated using a particular renewable fuel, such as its generation date, facility geographic location, unit vintage, emissions output, fuel, state program eligibility, or other characteristic that can be identified, accounted for, and tracked.

**“Attribute credit”** means an attribute credit represents the attributes related to one megawatt-hour of electricity generation.

**“Automated data acquisition and handling system or DAHS”** means that component of the continuous emissions monitoring system, or other emissions monitoring system approved for use under Section 8.0 of this regulation, designed to interpret and convert individual output signals from pollutant concentration monitors, flow monitors, diluent gas monitors, and other component parts of the monitoring system to produce a continuous record of the measured parameters in the measurement units required by Section 8.0 of this regulation.

**“Award”** means the determination by the Department of the number of CO<sub>2</sub> offset allowances to be recorded in the general account of a project sponsor pursuant to subsection 10.7 of this regulation. Award is a type of allocation.

**“Billing meter”** means to qualify as a billing meter, the measurement device must be used to measure electric or thermal output for commercial billing under a contract. The facility selling the electric or thermal output must have different owners from the owners of the party purchasing the electric or thermal output.

**“Biogas”** means a gas resulting from the decomposition of organic matter under anaerobic conditions. The principle constituents are methane and carbon dioxide.

~~**“Boiler”** means an enclosed fossil or other fuel-fired combustion device used to produce heat and to transfer heat to recirculating water, steam, or other medium.~~

~~**“Boiler (commercial)”** means a self-contained, low-pressure appliance for supplying steam or hot water to a commercial building.~~

~~**“Boiler (residential)”** means a self-contained, low-pressure appliance for supplying steam or hot water to a residential building.~~

~~**“Building envelope”** means the elements of a building that separate conditioned space from unconditioned space, or that enclose semi-heated space, through which thermal energy may be transferred to or from the exterior, unconditioned space, or conditioned space. Includes all elements that separate the interior of a building from the outdoor environment, including walls, windows, foundation, basement slab, ceiling, roof, and insulation.~~

~~“CO<sub>2</sub>e” means carbon dioxide equivalent.~~

~~“Clean Air Interstate Rule (CAIR) NO<sub>x</sub> Annual Trading Program CAIR NO<sub>x</sub> Annual Trading Program” means a multi-state nitrogen oxides air pollution control and emission reduction program approved and administered by the Administrator in accordance with 40 CFR Part 96 subparts AA through II and 40 CFR 51.123(o)(1) or (2) or established by the Administrator in accordance with subparts AA through II of 40 CFR Part 97 and 40 CFR 51.123(p) and 52.35, as a means of mitigating interstate transport of fine particulates and nitrogen oxides.~~

~~“CAIR NO<sub>x</sub> Ozone Season Trading Program CAIR NO<sub>x</sub> Ozone Season Trading Program” means a multi-state nitrogen oxides air pollution control and emission reduction program approved and administered by the Administrator in accordance with subparts AAAA through IIII of 40 CFR Part 96 and 40 CFR 51.123(aa)(1) or (2) (and (bb)(1)), (bb)(2), or (dd) or established by the Administrator in accordance with subparts AAAA through IIII of 40 CFR Part 97 and 40 CFR 51.123(ee) and 52.35, as a means of mitigating interstate transport of ozone and nitrogen oxides.~~

~~“CAIR SO<sub>2</sub> Trading Program CAIR SO<sub>2</sub> Trading Program” means a multi-state sulfur dioxide air pollution control and emission reduction program approved and administered by the Administrator in accordance with subparts AAA through III of 40 CFR Part 96 and 40 CFR 51.124(o)(1) or (2) or established by the Administrator in accordance with subparts AAA through III of 40 CFR Part 97 and 40 CFR 51.124(r) and 52.36, as a means of mitigating interstate transport of fine particulates and sulfur dioxide.~~

~~“Cost Containment Reserve trigger price, or CCR trigger price” means the CCR trigger price is also the minimum price at which CO<sub>2</sub> CCR allowances are offered for sale by the Department at auction. The CCR trigger price shall be \$4.00 per CO<sub>2</sub> Allowance for calendar year 2014, \$6.00 per CO<sub>2</sub> Allowance in calendar years 2015, \$8.00 per CO<sub>2</sub> allowance in calendar year 2016, and \$10.00 per CO<sub>2</sub> Allowances in calendar year 2017, each calendar year thereafter, the CCR trigger price shall be 1.025 multiplied by the CCR trigger price from the previous calendar year, rounded to the nearest whole cent.~~

~~“Alternate-CO<sub>2</sub> authorized alternate account representative” means for a CO<sub>2</sub> budget source and each CO<sub>2</sub> budget unit at the source, the alternate natural person who is authorized by the owners and operators of the source and all CO<sub>2</sub> budget units at the source, in accordance with Section 2.0 of this regulation, to represent and legally bind each owner and operator in matters pertaining to the CO<sub>2</sub> Budget Trading Program or, for a general account, the alternate natural person who is authorized, under Section 6.0 of this regulation, to transfer or otherwise dispose of CO<sub>2</sub> allowances held in the general account.~~

~~If the CO<sub>2</sub> budget source is also subject to the Acid Rain Program, then for a CO<sub>2</sub> Budget Trading Program compliance account, this alternate natural person shall be the same person as the alternate designated representative under the Acid Rain Program.~~

~~If the CO<sub>2</sub> budget source is also subject to the Acid Rain Program CAIR NO<sub>x</sub> Ozone Season Trading Program, CAIR NO<sub>x</sub> Annual Trading Program Compliance Account, or CAIR SO<sub>2</sub> Trading Program, then for a CO<sub>2</sub> Budget Trading Program compliance account, this natural person shall be the same person as the alternate designated representative under the Acid Rain Program.~~

~~“CO<sub>2</sub> allowance” means a limited authorization by the Department or a participating state under the CO<sub>2</sub> Budget Trading Program to emit up to one ton of CO<sub>2</sub>, subject to all applicable limitations contained in this regulation.~~

**“CO<sub>2</sub> Allowance Auction Website”** means the website containing information regarding the auctions to be conducted pursuant to this Regulation. The website shall be available through a link from the Department’s main website at <http://www.dnrec.delaware.gov/>.

**“CO<sub>2</sub> allowance deduction or deduct CO<sub>2</sub> allowances”** means the permanent withdrawal of CO<sub>2</sub> allowances by the Department or its agent from a CO<sub>2</sub> Allowance Tracking System compliance account to account for the number of tons of CO<sub>2</sub> emitted from a CO<sub>2</sub> budget source for a control period, determined in accordance with Section 8.0 of this regulation, or for the forfeit or retirement of CO<sub>2</sub> allowances as provided by this regulation.

**“CO<sub>2</sub> allowance price”** means the price for CO<sub>2</sub> allowances in the CO<sub>2</sub> Budget Trading Program for a particular time period as determined by the Department or its agent, calculated based on a volume-weighted average of transaction prices reported to the Department or its agent, and taking into account prices as reported publicly through reputable sources.

**“CO<sub>2</sub> allowances held or hold CO<sub>2</sub> allowances”** means the CO<sub>2</sub> allowances recorded by the Department or its agent, or submitted to the Department or its agent for recordation, in accordance with Sections 6.0 and 7.0 of this regulation, in a CO<sub>2</sub> Allowance Tracking System account.

**“CO<sub>2</sub> Allowance Tracking System (COATS)”** means the system by which the Department or its agent records allocations, deductions, and transfers of CO<sub>2</sub> allowances under the CO<sub>2</sub> Budget Trading Program. The tracking system may also be used to track CO<sub>2</sub> emissions offset projects, CO<sub>2</sub> allowance prices and emissions from affected sources.

**“CO<sub>2</sub> Allowance Tracking System account”** means an account in the CO<sub>2</sub> Allowance Tracking System established by the Department or its agent for purposes of recording the allocation, holding, transferring, or deducting of CO<sub>2</sub> allowances.

**“CO<sub>2</sub> allowance transfer deadline”** means midnight of the March 1 occurring after the end of the relevant control period and each relevant interim control period, if that March 1 is not a business day, midnight of the first business day thereafter and is the deadline by which CO<sub>2</sub> allowances must be submitted for recordation in a CO<sub>2</sub> budget source’s compliance account in order for the source to meet the CO<sub>2</sub> requirements of subsection 1.5.3 of this regulation for the control period and each relevant interim control period immediately preceding such deadline.

**“CO<sub>2</sub> authorized account representative”** means for a CO<sub>2</sub> budget source and each CO<sub>2</sub> budget unit at the source, the natural person who is authorized by the owners and operators of the source and all CO<sub>2</sub> budget units at the source, in accordance with Section 2.0 of this regulation, to represent and legally bind each owner and operator in matters pertaining to the CO<sub>2</sub> Budget Trading Program or, for a general account, the natural person who is authorized, under Section 6.0 of this regulation, to transfer or otherwise dispose of CO<sub>2</sub> allowances held in the general account.

If the CO<sub>2</sub> budget source is also subject to the Acid Rain Program, then for a CO<sub>2</sub> Budget Trading Program compliance account, this natural person shall be the same person as the authorized account representative under the Acid Rain Program.

If the CO<sub>2</sub> budget source is also subject to the CAIR NO<sub>x</sub> Ozone Season Trading Program, CAIR NO<sub>x</sub> Annual Trading Program, or CAIR SO<sub>2</sub> Trading Program then, for a CO<sub>2</sub> Budget Trading Program compliance account, this natural person shall be the same person as the CAIR designated representative under such programs.

**“CO<sub>2</sub> budget emissions limitation”** means for a CO<sub>2</sub> budget source, the tonnage equivalent, in CO<sub>2</sub> emissions in a control period or an interim control period, of the CO<sub>2</sub> allowances available for compliance deduction for the source for a control period or an interim control period.

**“CO<sub>2</sub> budget permit”** means the portion of the legally binding permit issued by the Department pursuant to **Regulation 1102, 1130 and 1147** to a CO<sub>2</sub> budget source or CO<sub>2</sub> budget unit which specifies the CO<sub>2</sub> Budget Trading Program requirements applicable to the CO<sub>2</sub> budget source, to each CO<sub>2</sub> budget unit at the CO<sub>2</sub> budget source, and to the owners and operators and the CO<sub>2</sub> authorized account representative of the CO<sub>2</sub> budget source and each CO<sub>2</sub> budget unit.

**“CO<sub>2</sub> budget source”** means a source that includes one or more CO<sub>2</sub> budget units.

**“CO<sub>2</sub> Budget Trading Program”** means a multi-state CO<sub>2</sub> air pollution control and emissions reduction program established pursuant to this regulation and corresponding regulations in other states as a means of reducing emissions of CO<sub>2</sub> from CO<sub>2</sub> budget sources.

**“CO<sub>2</sub> budget unit”** means a unit that is subject to the CO<sub>2</sub> Budget Trading Program requirements under subsection 1.2 of this regulation.

**“CO<sub>2</sub> cost containment reserve allowance or CO<sub>2</sub> CCR allowance”** means a CO<sub>2</sub> allowance that is offered for sale at an auction by the Department for the purpose of containing the cost of CO<sub>2</sub> Allowances. CO<sub>2</sub> CCR allowances offered for sale at an auction are separate from and additional to CO<sub>2</sub> allowances allocated from Delaware’s CO<sub>2</sub> Budget Trading Program base and adjusted budgets. CO<sub>2</sub> CCR allowances are subject to all applicable limitations-contained in this Part section.

**“CO<sub>2</sub> cost containment reserve trigger price, or CCR trigger price”** means the CCR trigger price is the minimum price at which CO<sub>2</sub> CCR allowances are offered for sale by the Department or its agent at an auction. The CCR trigger price shall be \$10.00 per CO<sub>2</sub> allowance in calendar year 2017. Each calendar year thereafter through 2020, the CCR trigger price shall be 1.025 multiplied by the CCR trigger price from the previous calendar year, rounded to the nearest whole cent. The CCR trigger price in calendar year 2021 shall be \$13.00. Each calendar year thereafter, the CCR trigger price shall be 1.07 multiplied by the CCR trigger price from the previous calendar year, rounded to the nearest whole cent, as shown in Table 1 below.

<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>
<u>\$10.25</u>	<u>\$10.51</u>	<u>\$10.77</u>	<u>\$13.00</u>	<u>\$13.91</u>	<u>\$14.88</u>	<u>\$15.92</u>	<u>\$17.03</u>	<u>\$18.22</u>	<u>\$19.50</u>	<u>\$20.87</u>	<u>\$22.33</u>	<u>\$23.89</u>

**“CO<sub>2</sub> emissions containment reserve allowance or CO<sub>2</sub> ECR allowance”** means a CO<sub>2</sub> allowance that is withheld from sale at an auction by the Department for the purpose of additional emission reduction in the event of lower than anticipated emission reduction costs.

**“CO<sub>2</sub> emissions containment reserve trigger price, or ECR trigger price”** means the ECR trigger price is the price below which CO<sub>2</sub> allowances will be withheld from sale by the Department or its agent at an auction. The ECR trigger price in calendar year 2021 shall be \$6.00. Each calendar year thereafter, the ECR trigger price shall be 1.07 multiplied by the ECR

trigger price from the previous calendar year, rounded to the nearest whole cent, as shown in Table 2.

Table 2. CO2 ECR Trigger Price									
<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u>
<u>\$6.00</u>	<u>\$6.42</u>	<u>\$6.87</u>	<u>\$7.35</u>	<u>\$7.86</u>	<u>\$8.41</u>	<u>\$9.00</u>	<u>\$9.63</u>	<u>\$10.30</u>	<u>\$11.02</u>

**“CO<sub>2</sub> equivalent”** means the quantity of a given greenhouse gas multiplied by its global warming potential (GWP).

**“CO<sub>2</sub> offset allowance”** means a CO<sub>2</sub> allowance that is awarded to the sponsor of a CO<sub>2</sub> emissions offset project pursuant to subsection 10.7 of this regulation and is subject to the relevant compliance deduction limitations of subsection 6.5.1.3 of this regulation.

**“Combined cycle system”** means a system comprised of one or more combustion turbines, heat recovery steam generators, and steam turbines configured to improve overall efficiency of electricity generation or steam production.

**“Combustion turbine”** means an enclosed fossil or other fuel-fired device that is comprised of a compressor (if applicable), a combustor, and a turbine, and in which the flue gas resulting from the combustion of fuel in the combustor passes through the turbine, rotating the turbine.

**“Commence commercial operation”** means with regard to a unit that serves a generator, to have begun to produce steam, gas, or other heated medium used to generate electricity for sale or use, including test generation. For a unit that is a CO<sub>2</sub> budget unit under subsection 1.2 of this regulation on the date the unit commences commercial operation, such date shall remain the unit's date of commencement of commercial operation even if the unit is subsequently modified, reconstructed, or repowered. For a unit that is not a CO<sub>2</sub> budget unit under subsection 1.2 of this regulation on the date the unit commences commercial operation, the date the unit becomes a CO<sub>2</sub> budget unit under subsection 1.2 of this regulation shall be the unit's date of commencement of commercial operation.

**“Commence operation”** means to begin any mechanical, chemical, or electronic process, including, with regard to a unit, start-up of a unit's combustion chamber. For a unit that is a CO<sub>2</sub> budget unit under subsection 1.2 of this regulation on the date of commencement of operation, such date shall remain the unit's date of commencement of operation even if the unit is subsequently modified, reconstructed, or repowered. For a unit that is not a CO<sub>2</sub> budget unit under subsection 1.2 of this regulation on the date of commencement of operation, the date the unit becomes a CO<sub>2</sub> budget unit under subsection 1.2 of this regulation shall be the unit's date of commencement of operation.

**“Commercial building”** means a building to which the provisions of ANSI/ASHRAE/IESNA Standard 90.1-2010: “Energy Standard for Buildings Except Low-Rise Residential Buildings” apply, which includes buildings except low-rise residential buildings. Low-rise

~~residential buildings include single family homes, multifamily structures of three stories or fewer above grade, and manufactured homes (modular and mobile).~~

**“Compliance account”** means a CO<sub>2</sub> Allowance Tracking System account, established by the Department or its agent for a CO<sub>2</sub> budget source under Section 6.0 of this regulation, in which the CO<sub>2</sub> allowance allocations for the source are initially recorded and in which are held CO<sub>2</sub> allowances available for use by the source for a control period and each interim control period for the purpose of meeting the CO<sub>2</sub> requirements of subsection 1.5.3 of this regulation.

~~“Condensing mode” means the design and operation of furnaces or boilers in a mode that leads to the production of condensate in flue gases.~~

**“Conflict of interest”** means a situation that may arise with respect to an individual in relation to any specific project sponsor, CO<sub>2</sub> emissions offset project or category of offset projects, such that the individual's other activities or relationships with other persons or organizations render or may render the individual incapable of providing an impartial certification opinion, or otherwise compromise the individual's objectivity in performing certification functions.

**“Continuous emissions monitoring system or CEMS”** means the equipment required under Section 8.0 of this regulation to sample, analyze, measure, and provide, by means of readings recorded at least once every 15 minutes (using an automated DAHS), a permanent record of stack gas volumetric flow rate, stack gas moisture content, and oxygen or carbon dioxide concentration (as applicable), in a manner consistent with 40 CFR 75 and Section 8.0 of this regulation. The following systems are types of continuous emissions monitoring systems required under Section 8.0 of this regulation.

- (1) A flow monitoring system, consisting of a stack flow rate monitor and an automated data acquisition and handling system and providing a permanent, continuous record of stack gas volumetric flow rate, in standard cubic feet per hour (scfh);
- (2) A nitrogen oxides emissions rate (or NO<sub>x</sub>-diluent) monitoring system, consisting of a NO<sub>x</sub> pollutant concentration monitor, a diluent gas (CO<sub>2</sub> or O<sub>2</sub>) monitor, and an automated data acquisition and handling system and providing a permanent, continuous record of NO<sub>x</sub> concentration, in parts per million (ppm), diluent gas concentration, in percent CO<sub>2</sub> or O<sub>2</sub>; and NO<sub>x</sub> emissions rate, in pounds per million British thermal units (lb/MMBtu);
- (3) A moisture monitoring system, as defined in 40 CFR 75.11(b)(2) and providing a permanent, continuous record of the stack gas moisture content, in percent H<sub>2</sub>O;
- (4) A carbon dioxide monitoring system, consisting of a CO<sub>2</sub> pollutant concentration monitor (or an oxygen monitor plus suitable mathematical equations from which the CO<sub>2</sub> concentration is derived) and an automated data acquisition and handling system and providing a permanent, continuous record of CO<sub>2</sub> emissions, in percent CO<sub>2</sub>; and
- (5) An oxygen monitoring system, consisting of an O<sub>2</sub> concentration monitor and an automated data acquisition and handling system and providing a permanent, continuous record of O<sub>2</sub>, in percent O<sub>2</sub>.

**“Control period”** means a three-calendar-year time period. The first control period is from January 1, 2009 to December 31, 2011, inclusive. Each subsequent sequential

three-calendar-year period is a separate control period. The first two calendar years of each control period are defined as an interim control period beginning in January 1, 2015.

**“Cross State Air Pollution Rule (CSAPR) NO<sub>x</sub> Annual Trading Program”** means a multi-state NO<sub>x</sub> air pollution control and emission reduction program established in accordance with subpart AAAAA of 40 CFR Part 97 and 40 CFR 52.38(a) (including such a program that is revised in a SIP revision approved by the Administrator under 40 CFR 52.38(a)(3) or (4) or that is established in a SIP revision approved by the Administrator under 40 CFR 52.38(a)(5)), as a means of mitigating interstate transport of fine particulates and NO<sub>x</sub>.

**“Cross State Air Pollution Rule (CSAPR) NO<sub>x</sub> Ozone Season Trading Program”** means a multi-state NO<sub>x</sub> air pollution control and emission reduction program established in accordance with subpart BBBB of 40 CFR Part 97 and 40 CFR 52.38(b) (including such a program that is revised in a SIP revision approved by the Administrator under 40 CFR 52.38(b)(3) or (4) or that is established in a SIP revision approved by the Administrator under 40 CFR 52.38(b)(5)), as a means of mitigating interstate transport of ozone and NO<sub>x</sub>.

**“Cross State Air Pollution Rule (CSAPR) SO<sub>2</sub> Group 1 Trading Program”** means a multi-state SO<sub>2</sub> air pollution control and emission reduction program established in accordance with subpart CCCCC of 40 CFR Part 97 and 40 CFR 52.39(a), (b), (d) through (f), (j), and (k) (including such a program that is revised in a SIP revision approved by the Administrator under 40 CFR 52.39(d) or (e) or that is established in a SIP revision approved by the Administrator under 40 CFR 52.39(f)), as a means of mitigating interstate transport of fine particulates and SO<sub>2</sub>.

**“Cross State Air Pollution Rule (CSAPR) SO<sub>2</sub> Group 2 Trading Program”** means a multi-state SO<sub>2</sub> air pollution control and emission reduction program established in accordance with subpart DDDDD of 40 CFR Part 97 and 40 CFR 52.39(a), (c), and (g) through (k) of this chapter (including such a program that is revised in a SIP revision approved by the Administrator under 40 CFR 52.39(g) or (h) of this chapter or that is established in a SIP revision approved by the Administrator under 40 CFR 52.39(i) of this chapter), as a means of mitigating interstate transport of fine particulates and SO<sub>2</sub>.

**“Cooperating Regulatory Agency”** means a regulatory agency in a state or United States jurisdiction that is not a participating state that has entered into a memorandum of understanding with the appropriate regulatory agencies of all participating states to carry out certain obligations relative to CO<sub>2</sub> emissions offset projects in that state or United States jurisdiction, including but not limited to the obligation to perform audits of offset project sites, and report violations of this regulation.

**“Delaware Auction Account”** means an account administered by the Department of Natural Resources and Environmental Control or its agent for purposes of auctioning CO<sub>2</sub> allowances.

**“Delaware CO<sub>2</sub> Budget Trading Program adjusted budget”** means The Delaware CO<sub>2</sub> Budget Trading Program adjusted budget is determined in accordance with subsection 5.3 and is the annual amount of CO<sub>2</sub> tons available in Delaware for allocation in a given allocation year, in accordance with the CO<sub>2</sub> Budget Trading Program. CO<sub>2</sub> offset allowances allocated to project sponsors and CO<sub>2</sub> CCR allowances offered for sale at an auction are separate from and additional to CO<sub>2</sub> allowances allocated from the Delaware CO<sub>2</sub> Budget Trading Program adjusted budget.

**“Delaware CO<sub>2</sub> Budget Trading Program Base Budget”** means the Delaware CO<sub>2</sub> Budget Trading Program base budget is specified in subsection 5.1. CO<sub>2</sub> offset allowances allocated to project sponsors and CO<sub>2</sub> CCR allowances offered for sale at an auction are

separate from and additional to CO<sub>2</sub> allowances allocated from Delaware CO<sub>2</sub> Budget Trading Program Base Budget.

**“Department”** means the State of Delaware Department of Natural Resources and Environmental Control.

**“Eligible biomass”** means eligible biomass includes sustainably harvested woody and herbaceous fuel sources that are available on a renewable or recurring basis (excluding old-growth timber), including dedicated energy crops and trees, agricultural food and feed crop residues, aquatic plants, unadulterated wood and wood residues, animal wastes, other clean organic wastes not mixed with other solid wastes, biogas, and other neat liquid biofuels derived from such fuel sources. Sustainably harvested will be determined by the Department.

**“Energy conservation measure (ECM) or energy efficiency measure (EEM)”** means a set of activities designed to increase the energy efficiency of a building or improve the management of energy demand. An ECM/EEM may involve one or more of the following: physical changes to facility equipment, modifications to a building, revisions to operating and maintenance procedures, software changes, or new means of training or managing users of the building or operations and maintenance staff.

**“Energy performance”** means a measure of the relative energy efficiency of a building, building equipment, or building components, as measured by the amount of energy required to provide building services. For building equipment and components, a relative measure of the impact of equipment or components on building energy usage.

**“Energy services”** means a provision of useful services to building occupants, such as heating and hot water, cooling, and lighting.

**“Excess emissions”** means any tonnage of CO<sub>2</sub> emitted by a CO<sub>2</sub> budget source during a control period that exceeds the CO<sub>2</sub> budget emissions limitation for the source.

**“Excess interim emission”** means any tonnage of CO<sub>2</sub> emitted by a CO<sub>2</sub> budget source during an interim control period multiplied by 0.50 that exceeds the CO<sub>2</sub> budget emissions limitation for the source.

**“First control period interim adjustment for banked allowances”** means an adjustment applied to the State of Delaware CO<sub>2</sub> Budget Trading Program base budget for allocation years 2014 through 2020 to address the surplus allocation year 2009, 2010, and 2011 allowances held in general and compliance accounts, including compliance accounts established pursuant to the CO<sub>2</sub> Budget Trading Program, but not including accounts opened by participating states.

**“Forest offset project”** mean an offset project involving reforestation, improved forest management, or avoided conversion.

**“Forest offset project data report”** means the report prepared by a project sponsor each year that provides the information and documentation required by this Subpart or the forest offset protocol.

**“Forest offset protocol”** means the protocol titled “Regional Greenhouse Gas Initiative Offset Protocol U.S. Forest Projects”, published by the participating states on 02/08/13.

**“Fossil fuel”** means natural gas, petroleum, coal, or any form of solid, liquid, or gaseous fuel derived from such material.

**“Fossil fuel-fired”** means:

- (1) With regard to a unit that commenced or commences operation prior to January 1, 2005, the combustion of fossil fuel, alone or in combination with any other fuel, where the fossil fuel combusted comprises, or is projected to comprise, more than 50 percent of the annual heat input on a Btu basis during any year.
- (2) With regard to a unit that commences operation on or after January 1, 2005, the combustion of fossil fuel, alone or in combination with any other fuel, where the fossil fuel combusted comprises, or is projected to comprise, more than 5 percent of the annual heat input on a Btu basis during any year.

~~**“Furnace”** means a self-contained, indirect-fired appliance that supplies heated air to a residential building through ducts to conditioned spaces and that has a heat input rate of less than 225,000 Btu/hr. May apply to a furnace that meets the above heat input rate criteria and is installed in a building.~~

**“General account”** means a CO<sub>2</sub> Allowance Tracking System account, established under Section 6.0 that is not a compliance account.

**“Global warming potential (GWP)”** means a measure of the radiative efficiency (heat-absorbing ability) of a particular gas relative to that of carbon dioxide (CO<sub>2</sub>) after taking into account the decay rate of each gas (the amount removed from the atmosphere over a given number of years) relative to that of CO<sub>2</sub>. Global warming potentials used in this Regulation are consistent with the values used in the Intergovernmental Panel on Climate Change, Third, Fifth Assessment Report.

**“Gross generation”** means the electrical output (in MWe) at the terminals of the generator.

~~**“HVAC system”** means the system or systems that provide, either collectively or individually, heating, ventilation, or air conditioning to a building, including the equipment, distribution network, and terminals.~~

**“Independent verifier”** means an individual that has been approved by the Department or its agent to conduct verification activities.

**“Intentional Reversal”** means any reversal caused by a forest owner's negligence, gross negligence, or willful intent, including harvesting, development, and harm to the area within the offset project boundary

**“Interim control period”** means an interim control period is a one-calendar-year time period, during each of the first and second calendar years of each three year control period. The first interim control period starts on January 1, 2015 and ends on December 31, 2015, inclusive. The second interim control period starts on January 1, 2016 and ends on December 31, 2016, inclusive. Each successive three year control period will have two interim control periods, comprised of each of the first two calendar years of that control period.

**“Life-of-the-unit contractual arrangement”** means a unit participation power sales agreement under which a customer reserves, or is entitled to receive, a specified amount or

percentage of nameplate capacity and/or associated energy from any specified unit pursuant to a contract:

- (1) For the life of the unit;
- (2) For a cumulative term of no less than ~~25~~ 30 years, including contracts that permit an election for early termination; or
- (3) For a period equal to or greater than ~~20~~ 25 years or 70 percent of the economic useful life of the unit determined as of the time the unit is built, with option rights to purchase or release some portion of the nameplate capacity and associated energy generated by the unit at the end of the period.

**“Market penetration rate”** means a measure of the diffusion of a technology, product, or practice in a defined market, as represented by the percentage of annual sales for a product or practice, or as a percentage of the existing installed stock for a product or category of products, or as the percentage of existing installed stock that utilizes a practice. The Department may determine an appropriate market definition and market penetration metric for a category of technology, product or practice, and may issue guidance specifying the technologies, products or practices that meet a specified market penetration rate.

~~“Maximum design heat input” means the ability of a unit to combust a stated maximum amount of fuel per hour on a steady state basis, as determined by the physical design and physical characteristics of the unit.~~

**“Maximum potential hourly heat input”** means an hourly heat input used for reporting purposes when a unit lacks certified monitors to report heat input. If the unit intends to use appendix D of 40 CFR 75 to report heat input, this value should be calculated, in accordance with 40 CFR 75, using the maximum fuel flow rate and the maximum gross calorific value. If the unit intends to use a flow monitor and a diluent gas monitor, this value should be reported, in accordance with 40 CFR 75, using the maximum potential flow rate and either the maximum carbon dioxide concentration (in percent CO<sub>2</sub>) or the minimum oxygen concentration (in percent O<sub>2</sub>).

**“Minimum reserve price”** means the minimum reserve price in calendar year 2014 shall be \$2.00. Each calendar year thereafter the minimum reserve price shall be 1.025 multiplied by the minimum reserve price from the previous calendar year, rounded to the nearest whole cent.

**“Monitoring system”** means any monitoring system that meets the requirements of Section 8.0 of this regulation, including continuous emissions monitoring system, an accepted monitoring system, or an alternative monitoring system.

**“Nameplate capacity”** means the maximum electrical output (in MWe) that a generator can sustain over a specified period of time when not restricted by seasonal or other de-ratings as measured in accordance with the United States Department of Energy standards.

“Net-electric output” means the amount of gross generation the generator(s) produce (including, but not limited to, output from steam turbine(s), combustion turbine(s), and gas expander(s)), as measured at the generator terminals, less the electricity used to operate the plant (i.e., auxiliary loads); such uses include fuel handling equipment, pumps, fans, pollution control equipment, other electricity needs, and transformer losses as measured at the transmission side of the step up transformer (e.g., the point of sale).

**"Non-CO2 budget unit"** means a unit that does not meet the applicability criteria of 1.2 of this regulation.

~~"Non-census water" means streams, sloughs, estuaries, and canals more than 120 feet and less than 1/8 of a mile wide. Lakes, reservoirs, and ponds one (1) to 40 acres in size.~~

**"Offset project"** means an offset project includes all equipment, materials, items, or actions directly related to the reduction of CO2 equivalent emissions or the sequestration of carbon specified in a consistency application submitted pursuant to subsection 10.4 of this regulation. Equipment, materials, items, or actions unrelated to an offset project reduction of CO2 equivalent emissions or the sequestration of carbon, but occurring at a location where an offset project occurs, shall not be considered part of an offset project, unless specified at subsection 10.5 of this regulation.

~~"On-site combustion" means the combustion of fossil fuel at a building to provide building services, such as heating, hot water, or electricity.~~

**"Operator"** means any person who operates, controls, or supervises a CO<sub>2</sub> budget unit or a CO<sub>2</sub> budget source and shall include, but not be limited to, any holding company, utility system, or plant manager of such a unit or source.

**"Owner"** means any of the following persons:

- (1) Any holder of any portion of the legal or equitable title in a CO<sub>2</sub> budget unit; or
- (2) Any holder of a leasehold interest in a CO<sub>2</sub> budget unit, other than a passive lessor, or a person who has an equitable interest through such lessor, whose rental payments are not based, either directly or indirectly, upon the revenues or income from the CO<sub>2</sub> budget unit; or
- (3) Any purchaser of power from a CO<sub>2</sub> budget unit under a life-of-the-unit contractual arrangement in which the purchaser controls the dispatch of the unit; or
- (4) With respect to any general account, any person who has an ownership interest with respect to the CO<sub>2</sub> allowances held in the general account and who is subject to the binding agreement for the CO<sub>2</sub> authorized account representative to represent that person's ownership interest with respect to the CO<sub>2</sub> allowances.

**"Participating state"** means a state that has established a corresponding regulation as part of the CO<sub>2</sub> Budget Trading Program.

~~"Passive solar" means a combination of building design features and building components that utilize solar energy to reduce or eliminate the need for mechanical heating and cooling and daytime artificial lighting.~~

**"Project commencement"** means for an offset project involving physical construction, other work at an offset project site, or installation of equipment or materials, the date of the beginning of such activity. For an offset project that involves the implementation of a management activity or protocol, the date on which such activity is first implemented or such protocol first utilized. For an offset project involving reforestation, improved forest management, or avoided conversion, the date specified in section subsection 3.2 of the forest offset protocol.

**"Public Benefit Purpose"** shall mean purposes including the promotion of energy efficiency, the mitigation of electricity ratepayer impacts attributable to RGGI, the promotion of distributed renewable or non-carbon-emitting energy technologies, the stimulation and reward of investment in the development of innovative carbon emissions abatement technologies with

significant carbon reduction potential, and funding of the administration of the Program established by Title 7, Chapter 60.

**“Receive or receipt of”** means ~~when referring to the Department or its agent, to come into possession of a document, information, or correspondence (whether sent in writing or by authorized electronic transmission), as indicated in an official correspondence log, or by a notation made on the document, information, or correspondence, by the Department or its agent in the regular course of business. With regard to CO<sub>2</sub> allowances, the movement of CO<sub>2</sub> allowances by the Department or its agent from one CO<sub>2</sub> Allowance Tracking System account to another, for purposes of allocation, transfer, or deduction-~~ when referring to the Department or its agent, to come into possession of a document, information, or correspondence (whether sent in writing or by authorized electronic transmission), as indicated in an official correspondence log, or by a notation made on the document, information, or correspondence, by the Department or its agent in the regular course of business.

**“Recordation, record, or recorded”** means with regard to CO<sub>2</sub> allowances, the movement of CO<sub>2</sub> allowances by the Department or its agent from one CO<sub>2</sub> Allowance Tracking System account to another, for purposes of allocation, transfer, or deduction.

**“Regional-type anaerobic digester”** means an anaerobic digester using feedstock from more than one agricultural operation, or importing feedstock from more than one agricultural operation. Also commonly referred to as a “community digester” or “centralized digester.”

**“Renewable portfolio standard”** means a statutory or regulatory requirement that a load-serving entity provide a certain portion of the electricity it supplies to its customers from renewable energy sources, or any other statutory or regulatory requirement that a certain portion of electricity supplied to the electricity grid be generated from renewable energy sources.

**“Reporting Period”** means the period of time covered in by forest offset project data report. The first reporting period for an offset project in an initial crediting period may consist of 6 to 24 consecutive months; all subsequent reporting periods in an initial crediting and all reporting periods in any renewed crediting period must consist of 12 consecutive months.

**“Reserve Price”** means the minimum acceptable price for each CO<sub>2</sub> allowance in a specific auction. The reserve price at an auction is either the minimum reserve price or the CCR trigger price, as specified in Section 9.0 of this regulation.

**“Residential building”** ~~means a low-rise residential building to which the provisions of ANSI/ASHRAE/IESNA Standard 90.1-2004: “Energy Standard for Buildings Except Low-Rise Residential Buildings” and American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc., ANSI/ASHRAE/IESNA Addenda a, b, c, d, e, f, g, h, i, j, k, l, m, n, o, p, r, s, t, u, v, x, and ak, Supplement to ANSI/ASHRAE/IESNA Standard 90.1-2004: “Energy Standard for Buildings Except Low-Rise Residential Buildings, 2006” do not apply. Includes single family homes, multifamily structures of three stories or fewer above grade, and manufactured homes (modular and mobile).~~

**“Reversal”** means a GHG emission reduction or GHG removal enhancement for which CO<sub>2</sub> offset allowances have been issued that is subsequently released or emitted back into the atmosphere due to any intentional or unintentional circumstance.

**“Serial number”** means when referring to CO<sub>2</sub> allowances, the unique identification number assigned to each CO<sub>2</sub> allowance by the Department or its agent under subsection 6.4.5 of this regulation.

**“Single Round Sealed-Bid Uniform Price Auction”** means a single round sealed-bid uniform price auction format, under which bidders may submit multiple bids at different prices; the price paid by all awarded bidders will be uniform and equal to the highest rejected bid price.

**“Source”** means any governmental, institutional, commercial, or industrial structure, installation, plant, building, or facility that emits or has the potential to emit any air pollutant. A “source,” including a “source” with multiple units, shall be considered a single “facility.”

**“State”** means a State, the District of Columbia, the Commonwealth of Puerto Rico, the Virgin Islands, Guam, and American Samoa and includes the Commonwealth of the Northern Mariana Islands.

**“State of Delaware’s CO<sub>2</sub> Budget Trading Program adjusted budget”** means The State of Delaware’s CO<sub>2</sub> Budget Trading Program adjusted budget is determined in accordance with ~~section~~ subsection 5.3 and is the annual amount of CO<sub>2</sub> tons available in the State of Delaware for allocation in a given allocation year, in accordance with the CO<sub>2</sub> Budget Trading Program. CO<sub>2</sub> offset allowances allocated to project sponsors and CO<sub>2</sub> CCR allowances offered for sale at an auction are separate from and additional to CO<sub>2</sub> allowances allocated from the State of Delaware’s CO<sub>2</sub> Budget Trading Program adjusted budget.

**“State of Delaware CO<sub>2</sub> Budget Trading Program Base Budget”** means the annual amount of CO<sub>2</sub> tons available in the State of Delaware for allocation in a given allocation year, in accordance with the CO<sub>2</sub> Budget Trading Program. CO<sub>2</sub> offset allowances allocated to project sponsors are separate from and additional to CO<sub>2</sub> allowances allocated from the State of Delaware CO<sub>2</sub> Budget Trading Program Base Budget.

**“Submit or serve”** means to send or transmit a document, information, or correspondence to the person specified in accordance with the applicable regulation:

- (1) in person;
- (2) by United States Postal Service; or
- (3) by other means of dispatch or transmission and delivery.

Compliance with any “submission,” “service,” or “mailing” deadline shall be determined by the date of dispatch, transmission, or mailing and not the date of receipt.

**“System benefit fund”** means any fund collected directly from retail electricity or natural gas ratepayers.

**“Third adjustment for banked allowances”** means an adjustment applied to the State of Delaware CO<sub>2</sub> Budget Trading Program base budget for allocation years 2021 through 2025 to address allowances held in general and compliance accounts, including compliance accounts established pursuant to the CO<sub>2</sub> Budget Trading Program, but not including accounts opened by participating states, that are in addition to the aggregate quantity of emissions from all CO<sub>2</sub> budget sources in all of the participating states at the end of the fourth control period in 2020 and as reflected in the CO<sub>2</sub> Allowance Tracking System on March 15, 2021.

**“SF<sub>6</sub>-containing operating equipment”** means ~~any equipment used for the transmission and distribution of electricity that contains SF<sub>6</sub>.~~

**“Ton or tonnage”** means any “short ton”, or 2,000 pounds. For the purpose of determining compliance with the CO<sub>2</sub> requirements of subsection 1.5.3 of this regulation, total tons for a control period and each interim control period shall be calculated as the sum of all recorded hourly emissions (or the tonnage equivalent of the recorded hourly emissions rates) in accordance with Section 8.0 of this regulation, with any remaining fraction of a ton equal to or greater than 0.50 ton deemed to equal one ton and any fraction of a ton less than 0.50 ton deemed to equal zero tons. A short ton is equal to 0.9072 metric tons.

**“Total solids”** means total solids are the total of all solids in a sample. They include the total suspended solids, total dissolved solids, and volatile suspended solids.

**“Transmission and/or distribution entity”** means the assets and equipment used to transmit and distribute electricity from an electric generator to the electrical load of a customer. Includes all related assets and equipment located within the service territory of the entity, defined as the service territory of a load-serving entity specified by the applicable state regulatory agency.

**“Twelve month period”** means a period of twelve consecutive months determined on a rolling basis where a new twelve month period begins on the first day of each calendar month.

**“Undistributed CO<sub>2</sub> allowances”** mean CO<sub>2</sub> allowances originally allocated to a set aside account as pursuant to subsection 5.3 that were not distributed.

**“Unit”** means a fossil fuel-fired stationary boiler, combustion turbine, or combined cycle system.

**“Unit operating day”** means a calendar day in which a unit combusts any fuel.

**“Unsold CO<sub>2</sub> allowances”** mean CO<sub>2</sub> allowances that have been made available for sale in an auction conducted under the Department or its agent, but not sold.

**“Verification”** means the verification by an independent verifier that certain parts of a CO<sub>2</sub> emissions offset project consistency application and/or measurement, monitoring or verification report conforms to the requirements of this regulation.

**“Volatile solids”** means the fraction of total solids that is comprised primarily of organic matter.

~~**“Whole-building energy performance”** means the overall energy performance of a building, taking into account the integrated impact on energy usage of all building components and systems.~~

~~**“Whole-building retrofit”** means any building project that involves the replacement of more than one building system, or set of building components, and also requires a building permit.~~

~~**“Zero net energy building”** means a building designed to produce as much energy, using renewable energy sources, as the building is projected to use, as measured on an annual basis.~~

#### 1.4 Measurements, abbreviations and acronyms.

Measurements, abbreviations, and acronyms used in this regulation are defined as follows:

- ~~1.4.1~~ ANSI - American National Standards Institute.
- ~~1.4.2~~ ASHRAE - American Society of Heating, Refrigerating and Air-Conditioner Engineers.
- 1.4.31 CO<sub>2</sub>: carbon dioxide.
- 1.4.42 CO<sub>2</sub>e: CO<sub>2</sub>e means carbon dioxide equivalent.
- ~~1.4.53~~ hr-hour.
- ~~1.4.6~~ IESNA - Illuminating Engineering Society of North America.
- 1.4.74 lb-pounds.
- 1.4.85 MW: megawatt
- 1.4.96 MMBtu: one million British thermal units
- 1.4.7 MWh: megawatt hours
- 1.4.88 MWe: megawatt electrical.
- ~~1.4.9~~ RESNET-Residential Energy Service Network.

## 1.5 Standard requirements.

### 1.5.1 Permit requirements.

- 1.5.1.1 The CO<sub>2</sub> authorized account representative of each CO<sub>2</sub> budget source required to have an operating permit pursuant to Regulation 1102, 1130 and 1147 of this Title and each CO<sub>2</sub> budget unit required to have an operating permit pursuant to Regulation 1102, 1130 and 1147 of this Title shall:
  - 1.5.1.1.1 submit to the Department a complete CO<sub>2</sub> budget permit application under subsection 3.3 of this regulation in accordance with the deadlines specified in subsection 3.2 of this regulation; and
  - 1.5.1.1.2 submit in a timely manner any supplemental information that the Department determines is necessary in order to review the CO<sub>2</sub> budget permit application and issue or deny a CO<sub>2</sub> budget permit.
- 1.5.1.2 The owners and operators of each CO<sub>2</sub> budget source required to have an operating permit pursuant to DE Regulations 1102, 1130 and 1147 of this Title and each CO<sub>2</sub> budget unit required to have an operating permit pursuant DE Regulations 1102, 1130 and 1147 of this Title for the source shall have a CO<sub>2</sub> budget permit and operate the CO<sub>2</sub> budget source and the CO<sub>2</sub> budget unit at the source in compliance with such CO<sub>2</sub> budget permit.

### 1.5.2 Monitoring requirements.

- 1.5.2.1 The owners and operators and, to the extent applicable, the CO<sub>2</sub> authorized account representative of each CO<sub>2</sub> budget source and each CO<sub>2</sub> budget unit at the source shall comply with the monitoring requirements of Section 8.0 of this regulation.
- 1.5.2.2 The emissions measurements recorded and reported in accordance with Section 8.0 of this regulation shall be used to determine compliance by the unit with the CO<sub>2</sub> requirements under subsection 1.5.3 of this regulation.

### 1.5.3 CO<sub>2</sub> requirements.

- 1.5.3.1 The owners and operators of each CO<sub>2</sub> budget source and each CO<sub>2</sub> budget unit at the source shall hold CO<sub>2</sub> allowances available for compliance deductions under subsection 6.5 of this regulation, as of the CO<sub>2</sub> allowance transfer deadline, in the source's compliance account in an amount not less than the total CO<sub>2</sub> emissions for the control period from all CO<sub>2</sub> budget units at the source, less the CO<sub>2</sub> allowances deducted to meet the requirements of subsection 1.5.3.2, with respect to the previous two interim control periods, as determined in accordance with Sections 6.0 and 8.0 of this regulation.
- 1.5.3.2 The owners and operators of each CO<sub>2</sub> budget source and each CO<sub>2</sub> budget unit at the source shall hold CO<sub>2</sub> allowances available for compliance deductions under subsection 6.5, as of the CO<sub>2</sub> allowance transfer deadline, in the source's compliance account in an amount not less than the total CO<sub>2</sub> emissions for the interim control period from all CO<sub>2</sub> budget units at the source multiplied by 0.50, as determined in accordance with Sections 6.0 and 8.0 of this regulation.
- 1.5.3.3 Each ton of CO<sub>2</sub> emitted in excess of the CO<sub>2</sub> budget emissions limitation for a control period shall constitute a separate violation ~~of this regulation~~ and applicable state law.
- 1.5.3.4 Each ton of excess interim emissions shall constitute a separate violation of this ~~Part~~ section and applicable state law.
- 1.5.3.5 A CO<sub>2</sub> budget unit shall be subject to the requirements under subsection 1.5.3.1 of this regulation starting on the later, of January 1, 2009 or the date on which the unit commences operation.
- 1.5.3.6 CO<sub>2</sub> allowances shall be held in, deducted from, or transferred among CO<sub>2</sub> Allowance Tracking System accounts in accordance with Sections 5.0, 6.0, and 7.0, and subsection 10.7 of this regulation.
- 1.5.3.7 A CO<sub>2</sub> allowance shall not be deducted, in order to comply with the requirements under subsections 1.5.3.1 or 1.5.3.2 of this regulation, for a control period or interim control period that ends prior to the year for which the CO<sub>2</sub> allowance was allocated. A CO<sub>2</sub> offset allowance shall not be deducted, in order to comply with the requirements under subsections 1.5.3.1 or 1.5.3.2 of this regulation, beyond the applicable percent limitations set out in subsection 6.5.1.3 of this regulation.
- 1.5.3.8 A CO<sub>2</sub> allowance under the CO<sub>2</sub> Budget Trading Program is a limited authorization by the Department or a participating state to emit one ton of CO<sub>2</sub> in accordance with the CO<sub>2</sub> Budget Trading Program. No provision of the CO<sub>2</sub> Budget Trading Program, the CO<sub>2</sub> budget permit application, or the CO<sub>2</sub> budget permit or any provision of law shall be construed to limit the authority of the Department or a participating state to terminate or limit such authorization.
- 1.5.3.9 A CO<sub>2</sub> allowance under the CO<sub>2</sub> Budget Trading Program does not constitute a property right.
- 1.5.4 Excess emissions requirements.** The owners and operators of a CO<sub>2</sub> budget source that has excess emissions in any control period or excess interim emissions for any interim control period shall:

- 1.5.4.1 Forfeit the CO<sub>2</sub> allowances required for deduction under subsection 6.5.4.1 of this regulation, provided CO<sub>2</sub> offset allowances may not be used to cover any part of such excess emissions; and
- 1.5.4.2 Pay any fine, penalty, or assessment or comply with any other remedy imposed under subsection 6.5.4.2 of this regulation.

**1.5.5 Recordkeeping and reporting requirements.**

- 1.5.5.1 Unless otherwise provided, the owners and operators of the CO<sub>2</sub> budget source and each CO<sub>2</sub> budget unit at the source shall keep on site at the source each of the following documents for a period of 10 years from the date the document is created. This period may be extended for cause, at any time prior to the end of 10 years, in writing by the Department.
  - 1.5.5.1.1 The account certificate of representation for the CO<sub>2</sub> authorized account representative for the source and each CO<sub>2</sub> budget unit at the source and all documents that demonstrate the truth of the statements in the account certificate of representation, in accordance with subsection 2.4 of this regulation, provided that the certificate and documents shall be retained on site at the source beyond such 10-year period until such documents are superseded because of the submission of a new account certificate of representation changing the CO<sub>2</sub> authorized account representative.
  - 1.5.5.1.2 All emissions monitoring information, in accordance with Section 8.0 of this regulation and 40 CFR 75.57.
  - 1.5.5.1.3 Copies of all reports, compliance certifications, and other submissions and all records made or required under the CO<sub>2</sub> Budget Trading Program.
  - 1.5.5.1.4 Copies of all documents used to complete a CO<sub>2</sub> budget permit application and any other submission under the CO<sub>2</sub> Budget Trading Program or to demonstrate compliance with the requirements of the CO<sub>2</sub> Budget Trading Program.
- 1.5.5.2 The CO<sub>2</sub> authorized account representative of a CO<sub>2</sub> budget source and each CO<sub>2</sub> budget unit at the source shall submit the reports and compliance certifications required under the CO<sub>2</sub> Budget Trading Program, including those under Section 4.0 of this regulation.

**1.5.6 Liability.**

- 1.5.6.1 No permit revision shall excuse any violation of the requirements of the CO<sub>2</sub> Budget Trading Program that occurs prior to the date that the revision takes effect.
- 1.5.6.2 Any provision of the CO<sub>2</sub> Budget Trading Program that applies to a CO<sub>2</sub> budget source (including a provision applicable to the CO<sub>2</sub> authorized account representative of a CO<sub>2</sub> budget source) shall also apply to the owners and operators of such source and of the CO<sub>2</sub> budget units at the source.

- 1.5.6.3 Any provision of the CO<sub>2</sub> Budget Trading Program that applies to a CO<sub>2</sub> budget unit (including a provision applicable to the CO<sub>2</sub> authorized account representative of a CO<sub>2</sub> budget unit) shall also apply to the owners and operators of such unit.

**1.5.7 Effect on other authorities**

No provision of the CO<sub>2</sub> Budget Trading Program, a CO<sub>2</sub> budget permit application, or a CO<sub>2</sub> budget permit, shall be construed as exempting or excluding the owners and operators and, to the extent applicable, the CO<sub>2</sub> authorized account representative of a CO<sub>2</sub> budget source or CO<sub>2</sub> budget unit from compliance with any other provisions of applicable State and federal law and regulations.

**1.6 Computation of time.**

- 1.6.1 Unless otherwise stated, any time period scheduled, under the CO<sub>2</sub> Budget Trading Program, to begin on the occurrence of an act or event shall begin on the day the act or event occurs.
- 1.6.2 Unless otherwise stated, any time period scheduled, under the CO<sub>2</sub> Budget Trading Program, to begin before the occurrence of an act or event shall be computed so that the period ends the day before the act or event occurs.
- 1.6.3 Unless otherwise stated, if the final day of any time period, under the CO<sub>2</sub> Budget Trading Program, falls on a weekend or a State of Delaware or Federal holiday, the time period shall be extended to the next business day.

**1.7 Severability.**

If any provision of this regulation, or its application to any particular person or circumstances, is held invalid, the remainder of this regulation, and the application thereof to other persons or circumstances, shall not be affected thereby.

**16 DE Reg. 994 (03/01/13)**

**17 DE Reg. 644 (12/01/13)**

~~11/11/08XX/XX/XX~~

**2.0 CO<sub>2</sub> Authorized Account Representative for CO<sub>2</sub> Budget Sources**

**2.1 Authorization and responsibilities of the CO<sub>2</sub> authorized account representative.**

- 2.1.1 Except as provided under subsection 2.2 of this regulation, each CO<sub>2</sub> budget source, including all CO<sub>2</sub> budget units at the source, shall have one and only one CO<sub>2</sub> authorized account representative, with regard to all matters under the CO<sub>2</sub> Budget Trading Program concerning the source or any CO<sub>2</sub> budget unit at the source.
- 2.1.2 The CO<sub>2</sub> authorized account representative of the CO<sub>2</sub> budget source shall be selected by an agreement binding on the owners and operators of the source and all CO<sub>2</sub> budget units at the source, and must act in accordance with the certificate of representation under subsection 2.4 of this regulation.

**2.1.3** Upon receipt by the Department or its agent of a complete account certificate of representation under subsection 2.4 of this regulation, the CO<sub>2</sub> authorized account representative of the source shall represent and, by his or her representations, actions, inactions, or submissions, legally bind each owner and operator of the CO<sub>2</sub> budget source represented and each CO<sub>2</sub> budget unit at the source in all matters pertaining to the CO<sub>2</sub> Budget Trading Program, notwithstanding any agreement between the CO<sub>2</sub> authorized account representative and such owners and operators. The owners and operators shall be bound by any decision or order issued to the CO<sub>2</sub> authorized account representative by the Department or a court regarding the source or unit.

**2.1.4** No CO<sub>2</sub> budget permit shall be issued, and no CO<sub>2</sub> Allowance Tracking System account shall be established for a CO<sub>2</sub> budget source, until the Department or its agent has received a complete account certificate of representation under subsection 2.4 of this regulation for a CO<sub>2</sub> authorized account representative of the source and the CO<sub>2</sub> budget units at the source.

**2.1.5** Each submission under the CO<sub>2</sub> Budget Trading Program shall be submitted, signed, and certified by the CO<sub>2</sub> authorized account representative for each CO<sub>2</sub> budget source on behalf of which the submission is made. Each such submission shall include the following certification statement by the CO<sub>2</sub> authorized account representative:

*"I am authorized to make this submission on behalf of the owners and operators of the CO<sub>2</sub> budget sources or CO<sub>2</sub> budget units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment."*

**2.1.6** The Department or its agent will accept or act on a submission made on behalf of owners or operators of a CO<sub>2</sub> budget source or a CO<sub>2</sub> budget unit only if the submission has been made, signed, and certified in accordance with subsection 2.1.5 of this regulation.

## **2.2** Alternate CO<sub>2</sub> authorized alternate account representative.

**2.2.1** An account certificate of representation may designate one and only one ~~alternate~~ CO<sub>2</sub> authorized alternate account representative who may act on behalf of the CO<sub>2</sub> authorized account representative. The agreement by which the ~~alternate~~ CO<sub>2</sub> authorized alternate account representative is selected shall include a procedure for authorizing the ~~alternate~~ CO<sub>2</sub> authorized alternate account representative to act in lieu of the CO<sub>2</sub> authorized account representative.

**2.2.2** Upon receipt by the Department or its agent of a complete account certificate of representation under subsection 2.4 of this regulation, any representation, action, inaction, or submission by the ~~alternate~~ CO<sub>2</sub> authorized alternate account representative shall be deemed to be a representation, action, inaction, or submission by the CO<sub>2</sub> authorized account representative.

**2.2.3** Except in subsections 2.1.1, 2.3, 2.4, and 6.2 of this regulation, whenever the term "CO<sub>2</sub> authorized account representative" is used in this regulation, the term shall be construed to include the ~~alternate~~ CO<sub>2</sub> authorized alternate account representative.

**2.3 Changing the CO<sub>2</sub> authorized account representative and the ~~alternate~~ CO<sub>2</sub> authorized alternate account representative; changes in the owners and operators.**

**2.3.1 *Changing the CO<sub>2</sub> authorized account representative.*** The CO<sub>2</sub> authorized account representative may be changed at any time upon receipt by the Department or its agent of a superseding complete account certificate of representation under subsection 2.4 of this regulation. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous CO<sub>2</sub> authorized account representative or alternate CO<sub>2</sub> authorized alternate account representative prior to the time and date when the Department or its agent receives the superseding account certificate of representation shall be binding on the new CO<sub>2</sub> authorized account representative and the owners and operators of the CO<sub>2</sub> budget source and the CO<sub>2</sub> budget units at the source.

**2.3.2 *Changing the ~~alternate~~ CO<sub>2</sub> authorized alternate account representative.*** The ~~alternate~~ CO<sub>2</sub> authorized alternate account representative may be changed at any time upon receipt by the Department or its agent of a superseding complete account certificate of representation under subsection 2.4 of this regulation. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous or ~~alternate~~ CO<sub>2</sub> authorized alternate account representative or alternate CO<sub>2</sub> authorized alternate account representative prior to the time and date when the Department or its agent receives the superseding account certificate of representation shall be binding on the new ~~alternate~~ CO<sub>2</sub> authorized alternate account representative and the owners and operators of the CO<sub>2</sub> budget source and the CO<sub>2</sub> budget units at the source.

**2.3.3 *Changes in the owners and operators.***

2.3.3.1 In the event a new owner or operator of a CO<sub>2</sub> budget source or a CO<sub>2</sub> budget unit is not included in the list of owners and operators submitted in the account certificate of representation, such new owner or operator shall be deemed to be subject to and bound by the account certificate of representation, the representations, actions, inactions, and submissions of the CO<sub>2</sub> authorized account representative and any ~~alternate~~ CO<sub>2</sub> authorized alternate account representative of the source or unit, and the decisions, orders, actions, and inactions of the Department, as if the new owner or operator were included in such list.

2.3.3.2 Within 30 days following any change in the owners and operators of a CO<sub>2</sub> budget source or a CO<sub>2</sub> budget unit, including the addition of a new owner or operator, the CO<sub>2</sub> authorized account representative or ~~alternate~~ CO<sub>2</sub> authorized alternate account representative shall submit a revision to the account certificate of representation amending the list of owners and operators to include the change.

**2.4 Account certificate of representation.**

**2.4.1** A complete account certificate of representation for a CO<sub>2</sub> authorized account representative or an ~~alternate~~ CO<sub>2</sub> authorized alternate account representative shall include the following elements in a format prescribed by the Department or its agent:

2.4.1.1 Identification of the CO<sub>2</sub> budget source and each CO<sub>2</sub> budget unit at the source for which the account certificate of representation is submitted;

- 2.4.1.2 the name, address, e-mail address, telephone number, and facsimile transmission number of the CO<sub>2</sub> authorized account representative and any alternate CO<sub>2</sub> authorized alternate account representative;
- 2.4.1.3 A list of the owners and operators of the CO<sub>2</sub> budget source and of each CO<sub>2</sub> budget unit at the source;
- 2.4.1.4 The following certification statement by the CO<sub>2</sub> authorized account representative and any alternate CO<sub>2</sub> authorized alternate account representative:

*"I certify that I was selected as the CO<sub>2</sub> authorized account representative or alternate CO<sub>2</sub> authorized alternate account representative, as applicable, by an agreement binding on the owners and operators of the CO<sub>2</sub> budget source and each CO<sub>2</sub> budget unit at the source. I certify that I have all the necessary authority to carry out my duties and responsibilities under the CO<sub>2</sub> Budget Trading Program on behalf of the owners and operators of the CO<sub>2</sub> budget source and of each CO<sub>2</sub> budget unit at the source and that each such owner and operator shall be fully bound by my representations, actions, inactions, or submissions and by any decision or order issued to me by the Department or a court regarding the source or unit."*; and

- 2.4.1.5 The signature of the CO<sub>2</sub> authorized account representative and any alternate CO<sub>2</sub> authorized alternate account representative and the dates signed.
- 2.4.2 Unless otherwise required by the Department or its agent, documents of agreement referred to in the account certificate of representation shall not be submitted to the Department or its agent. Neither the Department nor its agent shall be under any obligation to review or evaluate the sufficiency of such documents, if submitted.

## **2.5 Objections concerning the CO<sub>2</sub> authorized account representative.**

- 2.5.1 Once a complete account certificate of representation under subsection 2.4 of ~~this regulation~~ has been submitted and received, the Department and its agent will rely on the account certificate of representation unless and until the Department or its agent receives a superseding complete account certificate of representation under subsection 2.4 of ~~this regulation~~.
- 2.5.2 Except as provided in subsections 2.3.1 or 2.3.2 of ~~this regulation~~, no objection or other communication submitted to the Department or its agent concerning the authorization, or any representation, action, inaction, or submission of the CO<sub>2</sub> authorized account representative shall affect any representation, action, inaction, or submission of the CO<sub>2</sub> authorized account representative or the finality of any decision or order by the Department or its agent under the CO<sub>2</sub> Budget Trading Program.
- 2.5.3 Neither the Department nor its agent will adjudicate any private legal dispute concerning the authorization or any representation, action, inaction, or submission of any CO<sub>2</sub> authorized account representative, including private legal disputes concerning the proceeds of CO<sub>2</sub> allowance transfers.

## **2.6 Delegation by CO<sub>2</sub> authorized account representative and alternate CO<sub>2</sub> authorized alternate account representative**

- 2.6.1** A CO<sub>2</sub> authorized account representative may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Department or its agent under this regulation.
- 2.6.2** An ~~alternate~~ CO<sub>2</sub> authorized alternate account representative may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Department or its agent under this regulation.
- 2.6.3** In order to delegate authority to make an electronic submission to the Department or its agent in accordance with subsections 2.6.1 and 2.6.2 ~~of this regulation~~, the CO<sub>2</sub> authorized account representative or ~~alternate~~ CO<sub>2</sub> authorized alternate account representative, as appropriate, must submit to the Department or its agent a notice of delegation, in a format prescribed by the Department that includes the following elements:
- 2.6.3.1 The name, address, e-mail address, telephone number, and facsimile transmission number of such CO<sub>2</sub> authorized account representative or ~~alternate~~ CO<sub>2</sub> authorized alternate account representative;
- 2.6.3.2 The name, address, e-mail address, telephone number and facsimile transmission number of each such natural person, herein referred to as the "electronic submission agent";
- 2.6.3.3 For each such natural person, a list of the type of electronic submissions under subsections 2.6.1 or 2.6.2 ~~of this regulation~~ for which authority is delegated to him or her; and
- 2.6.3.4 The following certification statements by such CO<sub>2</sub> authorized account representative or ~~alternate~~ CO<sub>2</sub> authorized alternate account representative:
- 2.6.3.4.1 *"I agree that any electronic submission to the Department or its agent that is by a natural person identified in this notice of delegation and of a type listed for such electronic submission agent in this notice of delegation and that is made when I am a CO<sub>2</sub> authorized account representative or ~~alternate~~ CO<sub>2</sub> authorized alternate account representative, as appropriate, and before this notice of delegation is superseded by another notice of delegation under CO<sub>2</sub> Budget Trading Program shall be deemed to be an electronic submission by me."*
- 2.6.3.4.2 *"Until this notice of delegation is superseded by another notice of delegation under the CO<sub>2</sub> Budget Trading Program, I agree to maintain an e-mail account and to notify the Department or its agent immediately of any change in my e-mail address unless all delegation authority by me under the CO<sub>2</sub> Budget Trading Program is terminated."*
- 2.6.4** A notice of delegation submitted under subsection 2.6.3 ~~of this regulation~~ shall be effective, with regard to the CO<sub>2</sub> authorized account representative or ~~alternate~~ CO<sub>2</sub> authorized alternate account representative identified in such notice, upon receipt of such notice by the Department or its agent and until receipt by the Department or its agent of a superseding notice of delegation by such CO<sub>2</sub> authorized account representative or ~~alternate~~ CO<sub>2</sub> authorized alternate account representative as appropriate. The superseding notice of delegation may replace any previously identified electronic submission agent, add a new electronic submission agent, or eliminate entirely any delegation of authority.

2.6.5 Any electronic submission covered by the certification in subsection 2.6.3.4.1 of this regulation and made in accordance with a notice of delegation effective under subsection 2.6.4 of this regulation shall be deemed to be an electronic submission by the CO<sub>2</sub> authorized account representative or alternate CO<sub>2</sub> authorized *alternate* account representative submitting such notice of delegation.

2.6.6 A CO<sub>2</sub> authorized account representative may delegate, to one or more natural persons, his or her authority to review information in the CO<sub>2</sub> allowance tracking system under this part section.

2.6.7 A CO<sub>2</sub> authorized alternate account representative may delegate, to one or more natural persons, his or her authority to review information in the CO<sub>2</sub> allowance tracking system under this part section.

2.6.8 In order to delegate authority to review information in the CO<sub>2</sub> allowance tracking system in accordance with subsections (f) and (g) 2.6.6 and 2.6.7 of this section, the CO<sub>2</sub> authorized account representative or CO<sub>2</sub> authorized alternate account representative, as appropriate, must submit to the Department or its agent a notice of delegation, in a format prescribed by the Department that includes the following elements:

2.6.8.1 The name, address, e-mail address, telephone number, and facsimile transmission number of such CO<sub>2</sub> authorized account representative or CO<sub>2</sub> authorized alternate account representative;

2.6.8.2 The name, address, e-mail address, telephone number and facsimile transmission number of each such natural person, herein referred to as the "reviewer";

2.6.8.3 For each such natural person, a list of the type of information under subsections 2.6.6 or 2.6.7 of this regulation for which authority is delegated to him or her; and

2.6.8.4 The following certification statements by such CO<sub>2</sub> authorized account representative or CO<sub>2</sub> authorized alternate account representative:

2.6.8.4.1 *"I agree that any information that is reviewed by a natural person identified in this notice of delegation and of a type listed for such information accessible by the reviewer in this notice of delegation and that is made when I am a CO<sub>2</sub> authorized account representative or CO<sub>2</sub> authorized alternate account representative, as appropriate, and before this notice of delegation is superseded by another notice of delegation under subsection 2.6.9 shall be deemed to be a reviewer by me."*

2.6.8.4.2 *"Until this notice of delegation is superseded by another notice of delegation under subsection 2.6.9 of this regulation, I agree to maintain an e-mail account and to notify the Department or its agent immediately of any change in my e-mail address unless all delegation authority by me under subsection 2.6 of this regulation is terminated."*

2.6.9 A notice of delegation submitted under subsection 2.6.8 of this regulation shall be effective, with regard to the CO<sub>2</sub> authorized account representative or CO<sub>2</sub> authorized alternate account representative identified in such notice, upon receipt of such notice by the Department or its agent and until receipt by the Department or its agent of a superseding notice of delegation by such CO<sub>2</sub> authorized account representative or CO<sub>2</sub> authorized al-

ternate account representative as appropriate. The superseding notice of delegation may replace any previously identified reviewer, add a new reviewer, or eliminate entirely any delegation of authority.

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### **3.0 Permits**

#### **3.1 General CO<sub>2</sub> budget permit requirements.**

3.1.1 Each CO<sub>2</sub> budget source must have a permit issued by the Department pursuant to Regulations 1102, 1130 and 1147.

3.1.2 Each CO<sub>2</sub> budget permit shall contain all applicable CO<sub>2</sub> Budget Trading Program requirements and shall be a complete and distinguishable portion of the permit under subsection 3.1.1 of this regulation.

#### **3.2 Submission of CO<sub>2</sub> budget permit applications.**

For any CO<sub>2</sub> budget source, the CO<sub>2</sub> authorized account representative shall submit a complete CO<sub>2</sub> budget permit application under subsection 3.3 of this regulation covering such CO<sub>2</sub> budget source to the Department by the later of January 1, 2009 or 12 months before the date on which the CO<sub>2</sub> budget source, or a new unit at the source, commences operation.

#### **3.3 Information requirements for CO<sub>2</sub> budget permit applications.**

3.3.1 A complete CO<sub>2</sub> budget permit application shall include the following elements concerning the CO<sub>2</sub> budget source for which the application is submitted, in a format prescribed by the Department:

3.3.1.1 Identification of the CO<sub>2</sub> budget source, including plant name and the ORIS (Office of Regulatory Information Systems) or facility code assigned to the source by the Energy Information Administration of the United States Department of Energy, if applicable;

3.3.1.2 identification of each CO<sub>2</sub> budget unit at the CO<sub>2</sub> budget source; and

3.3.1.3 the standard requirements under subsection 1.5 of this regulation.

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### **4.0 Compliance Certification**

#### **4.1 Compliance certification report.**

**4.1.1 *Applicability and deadline.*** For each control period in which a CO<sub>2</sub> budget source is subject to the CO<sub>2</sub> requirements of subsection 1.5.3 of this regulation, the CO<sub>2</sub> authorized account representative of the source shall submit to the Department by the March 1 following the relevant control period, a compliance certification report.

A compliance certification report is not required as part of the compliance obligation during an interim control period.

**4.1.2 Contents of report.** The CO<sub>2</sub> authorized account representative shall include in the compliance certification report under subsection 4.1.1 of this regulation the following elements, in a format prescribed by the Department:

- 4.1.2.1 Identification of the source and each CO<sub>2</sub> budget unit at the source;
- 4.1.2.2 at the CO<sub>2</sub> authorized account representative's option, the serial numbers of the CO<sub>2</sub> allowances that are to be deducted from the source's compliance account under subsection 6.5 of this regulation for the control period, including the serial numbers of any CO<sub>2</sub> offset allowances that are to be deducted subject to the limitations of subsection 6.5.1.3 of this regulation; and
- 4.1.2.3 the compliance certification under subsection 4.1.3 of this regulation.

**4.1.3 Compliance certification.** In the compliance certification report under subsection 4.1 of this regulation, the CO<sub>2</sub> authorized account representative shall certify, based on reasonable inquiry of those persons with primary responsibility for operating the source and the CO<sub>2</sub> budget units at the source in compliance with the CO<sub>2</sub> Budget Trading Program, whether the source and each CO<sub>2</sub> budget unit at the source for which the compliance certification is submitted was operated during the calendar years covered by the report in compliance with the requirements of the CO<sub>2</sub> Budget Trading Program, including:

- 4.1.3.1 Whether the source was operated in compliance with the CO<sub>2</sub> requirements of subsection 1.5.3 of this regulation;
- 4.1.3.2 whether the monitoring plan applicable to each unit at the source has been maintained to reflect the actual operation and monitoring of the unit, and contains all information necessary to attribute CO<sub>2</sub> emissions to the unit, in accordance with Section 8.0 of this regulation;
- 4.1.3.3 whether all the CO<sub>2</sub> emissions from the units at the source were monitored or accounted for through the missing data procedures and reported in the quarterly monitoring reports, including whether conditional data were reported in the quarterly reports in accordance with Section 8.0 of this regulation. If conditional data were reported, the owner or operator shall indicate whether the status of all conditional data has been resolved and all necessary quarterly report resubmissions have been made;
- 4.1.3.4 whether the facts that form the basis for certification under Section 8.0 of this regulation of each monitor at each unit at the source, or for using an excepted monitoring method or alternative monitoring method approved under Section 8.0 of this regulation, if any, have changed; and
- 4.1.3.5 if a change is required to be reported under subsection 4.1.3.4 of this regulation, specify the nature of the change, the reason for the change, when the change occurred, and how the unit's compliance status was determined subsequent to the change, including what method was used to determine emissions when a change mandated the need for monitor recertification.

## 4.2 Department's action on compliance certifications.

- 4.2.1 The Department or its agent may review and conduct independent audits concerning any compliance certification or any other submission under the CO<sub>2</sub> Budget Trading Program and make appropriate adjustments of the information in the compliance certifications or other submissions.
- 4.2.2 The Department or its agent may deduct CO<sub>2</sub> allowances from or transfer CO<sub>2</sub> allowances to a source's compliance account based on the information in the compliance certifications or other submissions, as adjusted under subsection 4.2.1 of this regulation.

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## 5.0 CO<sub>2</sub> Allowance Allocations

### 5.1 State of Delaware CO<sub>2</sub> Trading Program base budget.

- ~~5.1.1 For the 2014 allocation years, the State of Delaware CO<sub>2</sub> Trading Program annual base budget is 4,064,687 tons.~~
- ~~5.1.2 For the 2015 allocation year, the State of Delaware CO<sub>2</sub> Trading Program annual base budget is 3,963,069 tons.~~
- ~~5.1.3 For the 2016 allocation year, the State of Delaware CO<sub>2</sub> Trading Program annual base budget is 3,863,993 tons.~~
- ~~5.1.4 For the 2017 allocation year, the State of Delaware CO<sub>2</sub> Trading Program annual base budget is 3,860,079 tons.~~
- 5.1.5~~1~~ For the 2018 allocation year, the State of Delaware CO<sub>2</sub> Trading Program annual base budget is 3,763,577 tons.
- 5.1.6~~2~~ For 2019, the State of Delaware CO<sub>2</sub> Budget Trading Program base budget is 3,669,487  
3,613,361 tons.
- 5.1.7~~3~~ For 2020 and each succeeding calendar year, the State of Delaware CO<sub>2</sub> Budget Trading Program base budget is 3,577,7503,523,027 tons.
- ~~5.1.4~~ For 2021, the State of Delaware CO<sub>2</sub> Budget Trading Program base budget is 3,383,313  
tons.
- ~~5.1.5~~ For 2022, the State of Delaware CO<sub>2</sub> Budget Trading Program base budget is 3,280,789  
tons.
- ~~5.1.6~~ For 2023, the State of Delaware CO<sub>2</sub> Budget Trading Program base budget is 3,178,264  
tons.
- 5.1.7 For 2024, the State of Delaware CO<sub>2</sub> Budget Trading Program base budget is 3,075,739  
tons.

5.1.8 For 2025, the State of Delaware CO<sub>2</sub> Budget Trading Program base budget is 2,973,215 tons.

5.1.9 For 2026, the State of Delaware CO<sub>2</sub> Budget Trading Program base budget is 2,870,690 ~~2,280,690~~ tons.

5.1.10 For 2027, the State of Delaware CO<sub>2</sub> Budget Trading Program base budget is 2,768,165 tons.

5.1.11 For 2028, the State of Delaware CO<sub>2</sub> Budget Trading Program base budget is 2,665,641 tons.

5.1.12 For 2029, the State of Delaware CO<sub>2</sub> Budget Trading Program base budget is 2,563,116 tons.

5.1.13 For 2030 and each succeeding calendar year, the State of Delaware CO<sub>2</sub> Budget Trading Program base budget is 2,460,591 tons.

## **5.2 Undistributed and Unsold CO<sub>2</sub> Allowances**

**5.2.1** The Department may retire undistributed CO<sub>2</sub> allowances at the end of each control period.

**5.2.2** The Department may retire unsold CO<sub>2</sub> allowances at the end of each control period.

## **5.3 CO<sub>2</sub> allowance allocations.**

### **5.3.1 General allocations.**

Beginning with 2014 CO<sub>2</sub> allowances, the Department or its agent shall auction 100% of allowances available to Delaware.

**5.3.2 Delaware Auction Allowances.** The Department shall direct allowances in accordance with Title 7, Chapter 60 to the Delaware Auction Account. Except for as provided by subsection 5.3.4 of this regulation, the Department shall make available for auction 100 percent of the allowances annually as described by subsection 5.3.1 of this regulation for public benefit purposes and as described by Title 7, Chapter 60.

**5.3.3 CO<sub>2</sub> Allowances available for allocation.** For allocation years 2014 through ~~2020~~2030, the State of Delaware CO<sub>2</sub> Budget Trading Program adjusted budget shall be the maximum number of allowances available for allocation in a given allocation year, except for CO<sub>2</sub> offset allowances and CO<sub>2</sub> CCR allowances.

**5.3.4 Cost Containment Reserve (CCR) allocation.** The Department shall allocate CO<sub>2</sub> CCR allowances, separate from and additional to the State of Delaware CO<sub>2</sub> Budget Trading Program base budget set forth in subsection 5.1, to the State of Delaware Auction Account. The CCR allocation is for the purpose of containing the cost of CO<sub>2</sub> allowances. The Department shall allocate CO<sub>2</sub> CCR allowances in the following manner:

**5.3.4.1** The Department shall initially allocate 228,829 CO<sub>2</sub> CCR allowances for calendar year 2014.

5.3.4.2 On or before January 1 of 2015 and each calendar year thereafter through 2020, the Department shall allocate CO<sub>2</sub> CCR allowances in an amount equal to 457,658, minus the number of CO<sub>2</sub> CCR allowances that remain in the State of Delaware Auction Account at the end of the prior calendar year.

5.3.4.3 On or before January 1, 2021 and each year thereafter, the Department shall allocate current vintage year CCR allowances equal to the quantity in Table 3, and withdraw the number of CO<sub>2</sub> CCR allowances that remain in the State of Delaware Auction Account at the end of the prior calendar year:

<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u> and each year there- after
<u>338,331</u>	<u>328,078</u>	<u>317,826</u>	<u>307,573</u>	<u>307,573</u>	<u>297,321</u>	<u>287,069</u>	<u>276,816</u>	<u>266,564</u>	<u>256,311</u>	<u>246,059</u>

**5.3.5 Emissions Containment Reserve (ECR) Withholding.** The Department shall convert and transfer any CO<sub>2</sub> allowances that have been withheld from any auction(s) into the State of Delaware ECR Account. The ECR withholding is for the purpose of additional emissions reductions in the event of lower than anticipated emissions reduction costs. The Department shall withhold CO<sub>2</sub> ECR allowances in the following manner.

5.3.5.1 If the condition in paragraph 9.2 (d)(1) subsection 9.2.4.1 is met at an auction, then the maximum number of CO<sub>2</sub> ECR allowances that will be withheld from that auction will be equal to the quantity shown in Table 4 minus the total quantity of CO<sub>2</sub> ECR allowances that have been withheld from any prior auction(s) in that calendar year. Any CO<sub>2</sub> ECR allowances withheld from an auction will be transferred into the State of Delaware ECR Account.

<u>2021</u>	<u>2022</u>	<u>2023</u>	<u>2024</u>	<u>2024</u>	<u>2025</u>	<u>2026</u>	<u>2027</u>	<u>2028</u>	<u>2029</u>	<u>2030</u> and each year thereafter
<u>338,331</u>	<u>328,078</u>	<u>317,826</u>	<u>307,573</u>	<u>307,573</u>	<u>297,321</u>	<u>287,069</u>	<u>276,816</u>	<u>266,564</u>	<u>256,311</u>	<u>246,059</u>

5.3.5.2 Allowances that have been transferred into State of Delaware ECR Account shall not be withdrawn.

**5.3.56 First control period interim adjustment for banked allowances.** By January 15, 2014, the Department shall determine establish the first control period interim adjustment for banked allowances quantity for allocation years 2014 through 2020 by the following formula:

<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>

375,603	375,603	375,603	375,603	375,603	375,603	375,603
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$$\text{FCPIABA} = (\text{FCPA}/7) \times (\text{2013 State Budget}/\text{2013 Regional Budget})$$

Where:

FCPIABA is the first control period interim adjustment for banked allowances quantity in tons.

FCPA, first control period adjustment is the total quantity of allocation year 2009, 2010, and 2011 CO<sub>2</sub> allowances held in general and compliance accounts, including compliance accounts established pursuant to the CO<sub>2</sub> Budget Trading Program, but not including accounts opened by participating states, as reflected in the CO<sub>2</sub> Allowance Tracking System (COATS) on January 1, 2014.

RS% is 2013 budget divided by the 2013 regional budget.

**5.3.67 Second control period interim adjustment for banked allowances.** On March 17, 2014, the Department shall determine establish the second control period interim adjustment for banked allowances quantity the allocation years 2015 through 2020 by the following formula:

2015	2016	2017	2018	2019	2020
626,202	626,202	626,202	626,202	626,202	626,202

$$\text{SCPIABA} = ((\text{SCPA} - \text{SCPE})/6) \times (\text{2013 State Budget}/\text{2013 Regional Budget})$$

Where:

SCPIABA is the second control period interim adjustment for banked allowances quantity in tons.

SCPA, second control period adjustment is the total quantity of allocation year 2012 and 2013 CO<sub>2</sub> allowances held in general and compliance accounts, including compliance accounts established pursuant to the CO<sub>2</sub> Budget Trading Program, but not including accounts opened by participating states, as reflected in the CO<sub>2</sub> Allowance Tracking System (COATS) on March 17, 2014.

SCPE, second control period emissions is the total quantity of 2012 and 2013 emissions from all CO<sub>2</sub> budget sources in all participating states, reported pursuant to CO<sub>2</sub> Budget Trading Program as reflected in the CO<sub>2</sub> Allowance Tracking System (COATS) on March 17, 2014.

RS% is 2013 budget divided by the 2013 regional budget.

**5.3.8 Third adjustment for banked allowances.** On March 15, 2021, the Department shall determine the third adjustment for banked allowances quantity for allocation years 2021 through 2025 through the application of the following formula:

$$\text{TABA} = ((\text{TA} - \text{TAE})/5) \times \text{RS}\%$$

Where:

TABA is the third adjustment for banked allowances quantity in tons.

TA, third adjustment, is the total quantity of allowances of vintage years prior to 2021 held in general and compliance accounts, including compliance accounts established pursuant to the CO<sub>2</sub> Budget Trading Program, but not including accounts opened by participating states, as reflected in the CO<sub>2</sub> Allowance Tracking System on March 15, 2021.

TAE, third adjustment emissions, is the total quantity of 2018, 2019 and 2020 emissions from all CO<sub>2</sub> budget sources in all participating states, reported pursuant to CO<sub>2</sub> Budget Trading Program as reflected in the CO<sub>2</sub> Allowance Tracking System on March 15, 2021.

RS% is State of Delaware CO<sub>2</sub> Base Budget divided by the Regional Budget.

5.32.7 CO<sub>2</sub> Budget Trading Program adjusted budget 2014. The Department shall determine the State of Delaware CO<sub>2</sub> Budget Trading Program adjusted budget for the 2014 allocation year by the following formula:

$$AB = BB - FCPIABA$$

Where:

AB is the State of Delaware CO<sub>2</sub> Budget Trading Program 2014 adjusted budget.

BB is the State of Delaware CO<sub>2</sub> Budget Trading Program 2014 base budget.

FCPIABA is the first control period interim adjustment for banked allowances quantity.

5.3.9 CO<sub>2</sub> Budget Trading Program adjusted budgets for 2018 through 2020. On April 15, 2014 the Department shall establish the State of Delaware CO<sub>2</sub> Budget Trading Program adjusted budgets for the 2018 through 2020 allocation years by in the following table:

<u>2018</u>	<u>2019</u>	<u>2020</u>
<u>2,761,771</u>	<u>2,611,556</u>	<u>2,521,222</u>

~~CO<sub>2</sub> Budget Trading Program adjusted budgets for 2015 through 2020. On April 15, 2014 the Department shall determine the State of Delaware CO<sub>2</sub> Budget Trading Program adjusted budgets for the 2015 through 2020 allocation years by the following formula:~~

~~$$AB = BB - (FCPIABA + SCPIABA)$$~~

~~Where:~~~~AB is the State of Delaware CO<sub>2</sub> Budget Trading Program adjusted budget.~~~~BB is the State of Delaware CO<sub>2</sub> Budget Trading Program base budget.~~~~FCPIABA is the first control period interim adjustment for banked allowances.~~~~SCPIABA is the second control interim adjustment for banked allowances.~~

5.3.10 CO<sub>2</sub> Budget Trading Program adjusted budgets for 2021 through 2025. On April 15, 2021 the Department shall establish the State of Delaware CO<sub>2</sub> Budget Trading Program adjusted budgets for the 2021 through 2025 allocation years by the following formula:

$$AB = BB - TABA$$

Where:

AB is the State of Delaware CO<sub>2</sub> Budget Trading Program adjusted budget.

BB is the State of Delaware CO<sub>2</sub> Budget Trading Program base budget.

TABA is the third adjustment for banked allowances quantity in tons.

5.3.811 After making the determinations in ~~5.3.7 and 5.3.8~~ subsection 5.3.10, the Department or its Agent will publish the CO<sub>2</sub> trading program adjusted budgets for the ~~2014 through 2020~~ 2021 through 2025 allocation years.

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## 6.0 CO<sub>2</sub> Allowance Tracking System

### 6.1 CO<sub>2</sub> Allowance Tracking System accounts.

**6.1.1 *Nature and function of compliance accounts.*** Consistent with subsection 6.2.1 of this regulation, the Department or its agent will establish one compliance account for each CO<sub>2</sub> budget source. Allocations of CO<sub>2</sub> allowances pursuant to Section 5.0 of this regulation and deductions or transfers of CO<sub>2</sub> allowances pursuant to subsections 4.2, 6.5, 6.7, or Section 7.0 of this regulation will be recorded in the compliance accounts in accordance with this regulation.

**6.1.2 *Nature and function of general accounts.*** Consistent with subsection 6.2.2 of this regulation, the Department or its agent will establish, upon request, a general account for any person. Transfers of CO<sub>2</sub> allowances pursuant to Section 7.0 of this regulation will be recorded in the general account in accordance with this regulation.

### 6.2 Establishment of accounts.

**6.2.1 *Compliance accounts.*** Upon receipt of a complete account certificate of representation under subsection 2.4 of this regulation, the Department or its agent will establish a compliance account for each CO<sub>2</sub> budget source for which the account certificate of representation was submitted.

#### 6.2.2 *General accounts.*

**6.2.2.1 *Application for general account.*** Any person may apply to open a general account for the purpose of holding and transferring CO<sub>2</sub> allowances. An application for a general account may designate one and only one CO<sub>2</sub> authorized account representative and one and only one ~~alternate~~ CO<sub>2</sub> authorized alternate account representative who may act on behalf of the CO<sub>2</sub> authorized account representative. The agreement by which the ~~alternate~~ CO<sub>2</sub> authorized alternate account representative is selected shall include a procedure for authorizing the ~~alternate~~ CO<sub>2</sub> authorized alternate account representative to act in lieu of the CO<sub>2</sub> authorized account representative. A complete application for a general account shall be submitted to the Department or its agent and shall include the following elements in a format prescribed by the Department or its agent:

6.2.2.1.1 name, address, e-mail address, telephone number, and facsimile transmission number of the CO<sub>2</sub> authorized account representative and any ~~alternate~~ CO<sub>2</sub> authorized alternate account representative;

6.2.2.1.2 at the option of the CO<sub>2</sub> authorized account representative, organization name and type of organization;

6.2.2.1.3 a list of all persons subject to a binding agreement for the CO<sub>2</sub> authorized account representative or any alternate CO<sub>2</sub> authorized alternate account representative to represent their ownership interest with respect to the CO<sub>2</sub> allowances held in the general account;

6.2.2.1.4 The following certification statement by the CO<sub>2</sub> authorized account representative and any alternate CO<sub>2</sub> authorized alternate account representative:

*"I certify that I was selected as the CO<sub>2</sub> authorized account representative or the CO<sub>2</sub> alternate authorized alternate account representative, as applicable, by an agreement that is binding on all persons who have an ownership interest with respect to CO<sub>2</sub> allowances held in the general account. I certify that I have all the necessary authority to carry out my duties and responsibilities under the CO<sub>2</sub> Budget Trading Program on behalf of such persons and that each such person shall be fully bound by my representations, actions, inactions, or submissions and by any order or decision issued to me by the Department or its agent or a court regarding the general account."*

6.2.2.1.5 The signature of the CO<sub>2</sub> authorized account representative and any alternate CO<sub>2</sub> authorized alternate account representative and the dates signed; and

6.2.2.1.6 Unless otherwise required by the Department or its agent, documents of agreement referred to in the application for a general account shall not be submitted to the Department or its agent. Neither the Department nor its agent shall be under any obligation to review or evaluate the sufficiency of such documents, if submitted.

#### 6.2.2.2 Authorization of CO<sub>2</sub> authorized account representative.

6.2.2.2.1 Upon receipt by the Department or its agent of a complete application for a general account under subsection 6.2.2.1 of this regulation:

6.2.2.2.1.1 The Department or its agent will establish a general account for the person or persons for whom the application is submitted.

6.2.2.2.1.2 The CO<sub>2</sub> authorized account representative and any alternate CO<sub>2</sub> authorized alternate account representative for the general account shall represent and, by his or her representations, actions, inactions, or submissions, legally bind each person who has an ownership interest with respect to CO<sub>2</sub> allowances held in the general account in all matters pertaining to the CO<sub>2</sub> Budget Trading Program, notwithstanding any agreement between the CO<sub>2</sub> authorized account representative or any alternate CO<sub>2</sub> authorized alternate account representative and such person. Any such person shall be bound by any order or decision issued to the CO<sub>2</sub> authorized account representative or any alternate CO<sub>2</sub> authorized alternate account representative by the Department or its agent or a court regarding the general account.

6.2.2.2.1.3 Any representation, action, inaction, or submission by any alternate CO<sub>2</sub> authorized alternate account representative shall be deemed to be a

representation, action, inaction, or submission by the CO<sub>2</sub> authorized account representative.

6.2.2.2.2 Each submission concerning the general account shall be submitted, signed, and certified by the CO<sub>2</sub> authorized account representative or any ~~alternate~~ CO<sub>2</sub> authorized alternate account representative for the persons having an ownership interest with respect to CO<sub>2</sub> allowances held in the general account. Each such submission shall include the following certification statement by the CO<sub>2</sub> authorized account representative or any ~~alternate~~ CO<sub>2</sub> authorized alternate account representative:

"I am authorized to make this submission on behalf of the persons having an ownership interest with respect to the CO<sub>2</sub> allowances held in the general account. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment."

6.2.2.2.3 The Department or its agent will accept or act on a submission concerning the general account only if the submission has been made, signed, and certified in accordance with subsection 6.2.2.2.2 of this regulation.

6.2.2.3 *Changing CO<sub>2</sub> authorized account representative and ~~alternate~~ CO<sub>2</sub> authorized alternate account representative; changes in persons with ownership interest.*

6.2.2.3.1 The CO<sub>2</sub> authorized account representative for a general account may be changed at any time upon receipt by the Department or its agent of a superseding complete application for a general account under subsection 6.2.2.1 of this regulation. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous CO<sub>2</sub> authorized account representative, or the previous ~~alternate~~ CO<sub>2</sub> authorized alternate account representative, prior to the time and date when the Department or its agent receives the superseding application for a general account shall be binding on the new CO<sub>2</sub> authorized account representative and the persons with an ownership interest with respect to the CO<sub>2</sub> allowances in the general account.

6.2.2.3.2 The ~~alternate~~ CO<sub>2</sub> authorized alternate account representative for a general account may be changed at any time upon receipt by the Department or its agent of a superseding complete application for a general account under subsection 6.2.2.1 of this regulation. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous CO<sub>2</sub> authorized account representative, or the previous ~~alternate~~ CO<sub>2</sub> authorized alternate account representative, prior to the time and date when the Department or its agent receives the superseding application for a general account shall be binding on the new ~~alternate~~ CO<sub>2</sub> authorized alternate account representative and the persons with an ownership interest with respect to the CO<sub>2</sub> allowances in the general account.

- 6.2.2.3.3 In the event a new person having an ownership interest with respect to CO<sub>2</sub> allowances in the general account is not included in the list of such persons in the application for a general account, such new person shall be deemed to be subject to and bound by the application for a general account, the representations, actions, inactions, and submissions of the CO<sub>2</sub> authorized account representative and any ~~alternate~~ CO<sub>2</sub> authorized alternate account representative, and the decisions, orders, actions, and inactions of the Department or its agent, as if the new person were included in such list.
- 6.2.2.3.4 Within 30 days following any change in the persons having an ownership interest with respect to CO<sub>2</sub> allowances in the general account, including the addition or deletion of persons, the CO<sub>2</sub> authorized account representative or any ~~alternate~~ CO<sub>2</sub> authorized alternate account representative shall submit a revision to the application for a general account amending the list of persons having an ownership interest with respect to the CO<sub>2</sub> allowances in the general account to include the change.
- 6.2.2.4 *Objections concerning CO<sub>2</sub> authorized account representative.*
- 6.2.2.4.1 Once a complete application for a general account under subsection 6.2.2.1 of this regulation has been submitted and received, the Department or its agent will rely on the application unless and until a superseding complete application for a general account under subsection 6.2.2.1 of this regulation is received by the Department or its agent.
- 6.2.2.4.2 Except as provided in subsections 6.2.2.3.1 and 6.2.2.3.2 of this regulation, no objection or other communication submitted to the Department or its agent concerning the authorization, or any representation, action, inaction, or submission of the CO<sub>2</sub> authorized account representative or any ~~alternate~~ CO<sub>2</sub> authorized alternate account representative for a general account shall affect any representation, action, inaction, or submission of the CO<sub>2</sub> authorized account representative or any ~~alternate~~ CO<sub>2</sub> authorized alternate account representative or the finality of any decision or order by the Department or its agent under the CO<sub>2</sub> Budget Trading Program.
- 6.2.2.4.3 Neither the Department nor its agent will adjudicate any private legal dispute concerning the authorization or any representation, action, inaction, or submission of the CO<sub>2</sub> authorized account representative or any ~~alternate~~ CO<sub>2</sub> authorized alternate account representative for a general account, including private legal disputes concerning the proceeds of CO<sub>2</sub> allowance transfers.
- 6.2.2.5 *Delegation by CO<sub>2</sub> authorized account representative and alternate CO<sub>2</sub> authorized alternate account representative.*
- 6.2.2.5.1 A CO<sub>2</sub> authorized account representative may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Department or its agent provided for under Sections 6.0 and 7.0 of this regulation.
- 6.2.2.5.2 An ~~alternate~~ CO<sub>2</sub> authorized alternate account representative may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Department or its agent provided for under Sections 6.0 and 7.0 of this regulation.

- 6.2.2.5.3 In order to delegate authority to make an electronic submission to the Department or its agent in accordance with subsections 6.2.2.5.1 and 6.2.2.5.2 of this regulation, the CO<sub>2</sub> authorized account representative or ~~alternate~~ CO<sub>2</sub> authorized alternate account representative, as appropriate, must submit to the Department or its agent a notice of delegation, in a format prescribed by the Department that includes the following elements:
- 6.2.2.5.3.1 The name, address, e-mail address, telephone number, and facsimile transmission number of such CO<sub>2</sub> authorized account representative or ~~alternate~~ CO<sub>2</sub> authorized alternate account representative;
  - 6.2.2.5.3.2 The name, address, e-mail address, telephone number and facsimile transmission number of each such natural person, herein referred to as “electronic submission agent”;
  - 6.2.2.5.3.3 For each such natural person, a list of the type of electronic submissions under subsections 6.2.1 and 6.2.2 of this regulation for which authority is delegated to him or her; and
  - 6.2.2.5.3.4 The following certification statements by such CO<sub>2</sub> authorized account representative or ~~alternate~~ CO<sub>2</sub> authorized alternate account representative:
    - 6.2.2.5.3.4.1 *“I agree that any electronic submission to the Department or its agent that is by a natural person identified in this notice of delegation and of a type listed for such electronic submission agent in this notice of delegation and that is made when I am a CO<sub>2</sub> authorized account representative or ~~alternate~~ CO<sub>2</sub> authorized alternate account representative, as appropriate, and before this notice of delegation is superseded by another notice of delegation under the CO<sub>2</sub> Budget Trading Program shall be deemed to be an electronic submission by me.”*
    - 6.2.2.5.3.4.2 *“Until this notice of delegation is superseded by another notice of delegation under CO<sub>2</sub> Budget Trading Program, I agree to maintain an e-mail account and to notify the Department or its agent immediately of any change in my e-mail address unless all delegation authority by me under CO<sub>2</sub> Budget Trading Program is terminated.”*
- 6.2.2.5.4 A notice of delegation submitted under subparagraph subsection 6.2.2.5.3 of this regulation shall be effective, with regard to the CO<sub>2</sub> authorized account representative or ~~alternate~~ CO<sub>2</sub> authorized alternate account representative identified in such notice, upon receipt of such notice by the Department or its agent and until receipt by the Department or its agent of a superseding notice of delegation by such CO<sub>2</sub> authorized account representative or ~~alternate~~ CO<sub>2</sub> authorized alternate account representative as appropriate. The superseding notice of delegation may replace any previously identified electronic submission agent, add a new electronic submission agent, or eliminate entirely any delegation of authority.
- 6.2.2.5.5 Any electronic submission covered by the certification in subsection 6.2.2.5.3.4.1 of this regulation and made in accordance with a notice of delegation effective under subsection 6.2.2.5.4 of this regulation shall be deemed to be an electronic submission by the CO<sub>2</sub> authorized account representative or ~~alternate~~ CO<sub>2</sub> authorized alternate account representative submitting such notice of delegation.

**6.2.3 Account identification.** The Department or its agent will assign a unique identifying number to each account established under subsection 6.2.1 or 6.2.2 of this regulation.

**6.3 CO<sub>2</sub> Allowance Tracking System responsibilities of CO<sub>2</sub> authorized account representative.**

Following the establishment of a CO<sub>2</sub> Allowance Tracking System account, all submissions to the Department or its agent pertaining to the account, including, but not limited to, submissions concerning the deduction or transfer of CO<sub>2</sub> allowances in the account, shall be made only by the CO<sub>2</sub> authorized account representative for the account.

**6.4 Recordation of CO<sub>2</sub> allowance allocations.**

**6.4.1** By January 1, ~~2009~~ of each calendar year, the Department or its agent will record in the Delaware Auction accounts ~~Account the CO<sub>2</sub> allowances for allocation years of 2009,~~ <sup>2</sup> ~~2010, 2011, and 2012.~~

**6.4.2** By January 1, 2010 and each January thereafter, the Department or its agent will record in the Delaware Auction Account the CO<sub>2</sub> <sup>2</sup> allowances for the allocation year three years in the future.

**6.4.3** Serial numbers for allocated CO<sub>2</sub> allowances. When allocating CO<sub>2</sub> allowances to and recording them in an account, the Department or its agent will assign each CO<sub>2</sub> <sup>2</sup> allowance a unique identification number that will include digits identifying the year for which the CO<sub>2</sub> <sup>2</sup> allowance is allocated.

**6.4.4** On or before December 31, 2009, the Department shall record any ERAs awarded pursuant to subsection 5.3.3 of this regulation in the CO<sub>2</sub> <sup>2</sup> budget source's compliance account.

**6.4.5** By January 1, 2009, the Department or its agent will record in the CO<sub>2</sub> <sup>2</sup> budget source's compliance account the CO<sub>2</sub> <sup>2</sup> allowances for allocation years of 2009, 2010, 2011, 2012 and 2013 pursuant to the amounts established by subsection 5.3 of the regulation.

**6.5 Compliance.**

**6.5.1 Allowances available for compliance deduction.** CO<sub>2</sub> allowances that meet the following criteria are available to be deducted in order for a CO<sub>2</sub> budget source to comply with the CO<sub>2</sub> requirements of subsection 1.5.3 of this regulation for a control period or an interim control period.

**6.5.1.1** The CO<sub>2</sub> allowances, other than CO<sub>2</sub> offset allowances, are of allocation years that fall within a prior control period or the same control period or an interim control period for which the allowances will be deducted.

**6.5.1.2** The CO<sub>2</sub> allowances are held in the CO<sub>2</sub> budget source's compliance account as of the CO<sub>2</sub> allowance transfer deadline for that control period or an interim control period or are transferred into the compliance account by a CO<sub>2</sub> allowance transfer

correctly submitted for recordation under subsection 7.1 of this regulation by the CO<sub>2</sub> allowance transfer deadline for that control period or an interim control period.

6.5.1.3 For CO<sub>2</sub> offset allowances, the number of CO<sub>2</sub> offset allowances that are available to be deducted in order for a CO<sub>2</sub> budget source to comply with the CO<sub>2</sub> requirements of subsection 1.5.3 of this regulation for a control period or an interim control period may not exceed the number of tons representing the following percentages of the CO<sub>2</sub> budget source's CO<sub>2</sub> emissions for that control period, or of 0.50 times the CO<sub>2</sub> budget source's CO<sub>2</sub> emissions for an interim control period, as determined in accordance with Sections 6.0 and 8.0 of this regulation

6.5.1.4 The CO<sub>2</sub> allowances are not necessary for deductions for excess emissions for a prior control period under subsection 6.5.4 of this regulation.

**6.5.2 Deductions for compliance.** Following the recordation, in accordance with subsection 7.2 of this regulation, of CO<sub>2</sub> allowance transfers submitted for recordation in the CO<sub>2</sub> budget source's compliance account by the CO<sub>2</sub> allowance transfer deadline for a control period or interim control period, the Department or its agent will deduct CO<sub>2</sub> allowances available under subsection 6.1 of this regulation to cover the source's CO<sub>2</sub> emissions (as determined in accordance with Section 8.0 of this regulation for the control period, as follows:

6.5.2.1 until the amount of CO<sub>2</sub> allowances deducted equals the number of tons of total CO<sub>2</sub> emissions, (or 0.50 times the number of tons of total CO<sub>2</sub> emissions for an interim control period), less any CO<sub>2</sub> emissions attributable to the burning of eligible biomass, determined in accordance with Section 8.0 of this regulation, from all CO<sub>2</sub> budget units at the CO<sub>2</sub> budget source for the control period; or interim control period or

6.5.2.2 If there are insufficient CO<sub>2</sub> allowances to complete the deductions subsection 6.2.1 of this regulation, until no more CO<sub>2</sub> allowances available under subsection 6.5.1 of this regulation remain in the compliance account.

**6.5.3 Identification of available CO<sub>2</sub> allowances by serial number; default compliance deductions.**

6.5.3.1 The CO<sub>2</sub> authorized account representative for a source's compliance account may request that specific CO<sub>2</sub> allowances, identified by serial number, in the compliance account be deducted for emissions or excess emissions for a control period or interim control period in accordance with subsections 6.5.2 or 6.5.4 of this regulation. Such identification shall be made in the compliance certification report submitted in accordance with subsection 4.1 of this regulation.

6.5.3.2 The Department or its agent will deduct CO<sub>2</sub> allowances for a control period or interim control period from the CO<sub>2</sub> budget source's compliance account, in the absence of identification or in the case of a partial identification of available CO<sub>2</sub> allowances by serial number under subsection 6.5.3.1 of this regulation, in the following order:

6.5.3.2.1 First, subject to the relevant compliance deduction limitations under subsections 6.5.1.3 and 6.5.4.1 of this regulation, CO<sub>2</sub> offset allowances. CO<sub>2</sub> offset allowances shall be deducted in chronological order (i.e., CO<sub>2</sub> offset allowances from earlier allocation years shall be deducted before CO<sub>2</sub> offset allowances from later allocation years). In the event that some, but not all, CO<sub>2</sub> offset allowances from a particular allocation year are to be deducted, CO<sub>2</sub>

offset allowances shall be deducted by serial number, with lower serial number allowances deducted before higher serial number allowances.

- 6.5.3.2.2 Second, any CO<sub>2</sub> allowances, other than CO<sub>2</sub> offset allowances, which are available for deduction under subsection 6.5.1 of this regulation. CO<sub>2</sub> allowances shall be deducted in chronological order (i.e., CO<sub>2</sub> allowances from earlier allocation years shall be deducted before CO<sub>2</sub> allowances from later allocation years). In the event that some, but not all, CO<sub>2</sub> allowances from a particular allocation year are to be deducted, CO<sub>2</sub> allowances shall be deducted by serial number, with lower serial number allowances deducted before higher serial number allowances.

#### **6.5.4 Deductions for excess emissions.**

- 6.5.4.1 After making the deductions for compliance under subsection 6.5.2 of this regulation, the Department or its agent will deduct from the CO<sub>2</sub> budget source's compliance account a number of CO<sub>2</sub> allowances, ~~from allocation years that occur after the control period in which the source has excess emissions~~, equal to three times the number of the source's excess emissions. In the event that a source has insufficient CO<sub>2</sub> allowances to cover three times the number of the source's excess emissions, the source shall be required to immediately transfer sufficient allowances into its compliance account. No CO<sub>2</sub> offset allowances may be deducted to account for the source's excess emissions.
- 6.5.4.2 Any CO<sub>2</sub> allowance deduction required under subsection 6.5.4.1 of this regulation shall not affect the liability of the owners and operators of the CO<sub>2</sub> budget source or the CO<sub>2</sub> units at the source for any fine, penalty, or assessment, or their obligation to comply with any other remedy, for the same violation, as ordered under applicable State law. The following guidelines will be followed in assessing fines, penalties or other obligations.
- 6.5.4.2.1 For purposes of determining the number of days of violation, if a CO<sub>2</sub> budget source has excess emissions for a control period, each day in the control period constitutes a day in violation unless the owners and operators of the unit demonstrate that a lesser number of days should be considered.
- 6.5.4.2.2 Each ton of excess emissions is a separate violation.
- 6.5.4.2.3 For purposes of determining the number of days of violation, if a CO<sub>2</sub> budget source has excess interim emissions for an interim control period, each day in the interim control period constitutes a day in violation unless the owners and operators of the unit demonstrate that a lesser number of days should be considered.
- 6.5.4.2.4 Each ton of excess interim emissions is a separate violation.
- 6.5.4.3 The propriety of the Department's determination that a CO<sub>2</sub> budget source had excess emissions and the concomitant deduction of CO<sub>2</sub> allowances from that CO<sub>2</sub> budget source's account may be later challenged in the context of the initial administrative enforcement, or any civil or criminal judicial action arising from or encompassing that excess emissions violation. The commencement or pendency of any administrative enforcement, or civil or criminal judicial action arising from or encompassing that excess emissions violation will not act to prevent the Department or its agent from initially deducting the CO<sub>2</sub> allowances resulting from

the Department's original determination that the relevant CO<sub>2</sub> budget source has had excess emissions. Should the Department's determination of the existence or extent of the CO<sub>2</sub> budget source's excess emissions be revised either by a settlement or final conclusion of any administrative or judicial action, the Department will act as follows.

6.5.4.3.1 In any instance where the Department's determination of the extent of excess emissions was too low, the Department will take further action under subsections 6.5.4.1 and 6.5.4.2 ~~of this regulation~~ to address the expanded violation.

6.5.4.3.2 In any instance where the Department's determination of the extent of excess emissions was too high, the Department will distribute to the relevant CO<sub>2</sub> budget source a number of CO<sub>2</sub> allowances equaling the number of CO<sub>2</sub> allowances deducted which are attributable to the difference between the original and final quantity of excess emissions. Should such CO<sub>2</sub> budget source's compliance account no longer exist, the CO<sub>2</sub> allowances will be provided to a general account selected by the owner or operator of the CO<sub>2</sub> budget source from which they were originally deducted.

**6.5.5** The Department or its agent will record in the appropriate compliance account all deductions from such an account pursuant to subsections 6.5.2 and 6.5.4 ~~of this regulation~~.

**6.5.6 Action by the Department on submissions.**

6.5.6.1 The Department may review and conduct independent audits concerning any submission under the CO<sub>2</sub> Budget Trading Program and make appropriate adjustments of the information in the submissions.

6.5.6.2 The Department may deduct CO<sub>2</sub> allowances from or transfer CO<sub>2</sub> allowances to a source's compliance account based on information in the submissions, as adjusted under subsection 6.5.6.1 ~~of this regulation~~.

**6.6 Banking.**

Each CO<sub>2</sub> allowance that is held in a compliance account or a general account will remain in such account unless and until the CO<sub>2</sub> allowance is deducted or transferred under subsections 4.2, 6.5, 6.7, or Section 7.0 ~~of this regulation~~.

**6.7 Account error.**

The Department or its agent may, at its sole discretion and on his or her own motion, correct any error in any CO<sub>2</sub> Allowance Tracking System account. Within 10 business days of making such correction, the Department or its agent will notify the CO<sub>2</sub> authorized account representative for the account.

**6.8 Closing of general accounts.**

- 6.8.1** A CO<sub>2</sub> authorized account representative of a general account may instruct the Department or its agent to close the account by submitting a statement requesting deletion of the account from the CO<sub>2</sub> Allowance Tracking System and by correctly submitting for recordation under subsection 7.1 of this regulation a CO<sub>2</sub> allowance transfer of all CO<sub>2</sub> allowances in the account to one or more other CO<sub>2</sub> Allowance Tracking System accounts.
- 6.8.2** If a general account shows no activity for a period of ~~six years~~ one year or more and does not contain any CO<sub>2</sub> allowances, the Department or its agent may notify the CO<sub>2</sub> authorized account representative for the account that the account will be closed in the CO<sub>2</sub> Allowance Tracking System ~~20 30~~ 30 business days after the notice is sent. The account will be closed after the ~~2030~~ 30-day period unless before the end of the ~~2030~~ 30-day period the Department or its agent receives a correctly submitted transfer of CO<sub>2</sub> allowances into the account under subsection 7.1 of this regulation or a statement submitted by the CO<sub>2</sub> authorized account representative demonstrating to the satisfaction of the Department or its agent good cause as to why the account should not be closed. The Department or its agent will have sole discretion to determine if the owner or operator of the unit demonstrated that the account should not be closed.

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**7.0 CO<sub>2</sub> Allowance Transfers**

**7.1 Submission of CO<sub>2</sub> allowance transfers.**

The CO<sub>2</sub> authorized account representatives seeking recordation of a CO<sub>2</sub> allowance transfer shall submit the transfer to the Department or its agent. To be considered correctly submitted, the CO<sub>2</sub> allowance transfer shall include the following elements in a format specified by the Department or its agent:

- 7.1.1** The numbers identifying both the transferor and transferee accounts;
- 7.1.2** A specification by serial number of each CO<sub>2</sub> allowance to be transferred;
- 7.1.3** The printed name and signature of the CO<sub>2</sub> authorized account representative of the transferor account and the date signed;
- 7.1.4** The date of the completion of the last sale or purchase transaction for the allowance, if any; and
- 7.1.5** The purchase or sale price of the allowance that is the subject of a sale or purchase transaction under subsection 7.1.4 of this regulation.

**7.2 Recordation.**

- 7.2.1** Within 5 business days of receiving a CO<sub>2</sub> allowance transfer, except as provided in subsection 7.2.2 of this regulation, the Department or its agent will record a CO<sub>2</sub> allowance transfer by moving each CO<sub>2</sub> allowance from the transferor account to the transferee account as specified by the request, provided that:

- 7.2.1.1** The transfer is correctly submitted under subsection 7.1 of this regulation; and

7.2.1.2 The transferor account includes each CO<sub>2</sub> allowance identified by serial number in the transfer.

7.2.2 A CO<sub>2</sub> allowance transfer into or out of a compliance account that is submitted for recordation following the CO<sub>2</sub> allowance transfer deadline and that includes any CO<sub>2</sub> allowances that are of allocation years that fall within a control period or interim control period prior to or the same as the control period or interim control period to which the CO<sub>2</sub> allowance transfer deadline applies will not be recorded until after completion of the process pursuant to subsection 6.5.2 of this regulation.

7.2.3 Where a CO<sub>2</sub> allowance transfer submitted for recordation fails to meet the requirements of subsection 7.2.1 of this regulation, the Department or its agent will not record such transfer.

### 7.3 Notification.

7.3.1 **Notification of recordation.** Within 5 business days of recordation of a CO<sub>2</sub> allowance transfer under subsection 7.2 of this regulation, the Department or its agent will notify each party to the transfer. Notice will be given to the CO<sub>2</sub> authorized account representatives of both the transferor and transferee accounts.

7.3.2 **Notification of non-recordation.** Within 10 business days of receipt of a CO<sub>2</sub> allowance transfer that fails to meet the requirements of subsection 7.2.1 of this regulation, the Department or its agent will notify the CO<sub>2</sub> authorized account representatives of both accounts subject to the transfer of:

7.3.2.1 A decision not to record the transfer, and

7.3.2.2 The reasons for such non-recordation.

7.3.3 Nothing in this regulation shall preclude the submission of a CO<sub>2</sub> allowance transfer for recordation following notification of non-recordation.

## 8.0 Monitoring and Reporting

### 8.1 General requirements.

The owners and operators, and to the extent applicable, the CO<sub>2</sub> authorized account representative of a CO<sub>2</sub> budget unit, shall comply with the monitoring, recordkeeping and reporting requirements as provided in this regulation and all applicable sections of 40 CFR 75. Where referenced in Section 8.0 of this regulation, the monitoring requirements of 40 CFR 75 shall be adhered to in a manner consistent with the purpose of monitoring and reporting CO<sub>2</sub> mass emissions pursuant to these regulations. For purposes of complying with such requirements, the definitions in subsection 1.3 of this regulation and in 40 CFR 72.2 shall apply, and the terms "affected unit," "designated representative," and "continuous emissions monitoring system" (or "CEMS") in 40 CFR 75 shall be replaced by the terms "CO<sub>2</sub> budget unit," "CO<sub>2</sub> authorized account representative," and "continuous emissions monitoring system" (or "CEMS"), respectively, as defined in subsection 1.3 of this regulation.

For units not subject to an Acid Rain emissions limitation, the term "Administrator" in 40 CFR 75 shall be replaced with "the Department or its agent." Owners or operators of a CO<sub>2</sub> budget unit who monitor a non-CO<sub>2</sub> budget unit pursuant to the common, multiple, or bypass stack procedures in 40 CFR 75.72(b)(2)(ii), or 40 CFR 75.16 (b)(2)(ii)(B) as pursuant to 40 CFR 75.13, for purposes of complying with [these regulations], shall monitor and report CO<sub>2</sub> mass emissions from such non-CO<sub>2</sub> budget unit according to the procedures for CO<sub>2</sub> budget units established in subsections 8.1 through 8.7 of this regulation.

#### 8.1.1 **Requirements for installation, certification, and data accounting.** The owner or operator of each CO<sub>2</sub> budget unit must meet the following requirements.

- 8.1.1.1 Install all monitoring systems necessary to monitor CO<sub>2</sub> mass emissions in accordance with 40 CFR 75, except for equation G-1. Equation G-1 in Appendix G shall not be used to determine CO<sub>2</sub> emissions under this Regulation for determining CO<sub>2</sub> mass emissions from coal-fired units. This may require systems to monitor CO<sub>2</sub> concentration, stack gas flow rate, O<sub>2</sub> concentration, heat input, and fuel flow rate.
- 8.1.1.2 Successfully complete all certification tests required under subsection 8.2 of this regulation and meet all other requirements of this regulation and 40 CFR 75 applicable to the monitoring systems under subsection 8.1.1 of this regulation.
- 8.1.1.3 Record, report and quality-assure the data from the monitoring systems under subsection 8.1.1 of this regulation.

#### 8.1.2 **Compliance dates.** The owner or operator shall meet the monitoring system certification and other requirements of subsections 8.1.1 through 8.1.3 of this regulation on or before the following dates. The owner or operator shall record, report and quality-assure the data from the monitoring systems under subsections 8.1.1 of this regulation on and after the following dates.

- 8.1.2.1 The owner or operator of a CO<sub>2</sub> budget unit, except for a CO<sub>2</sub> budget unit under subsection 8.1.2.2 of this regulation, that commences commercial operation before July 1, 2008, must comply with the requirements of this regulation by January 1, 2009.

8.1.2.2 The owner or operator of a CO<sub>2</sub> budget unit that commences commercial operation on or after July 1, 2008 must comply with the requirements ~~of this regulation~~ by the later of the following dates:

8.1.2.2.1 January 1, 2009; or

8.1.2.2.2 The earlier of:

8.1.2.2.2.1 90 unit operating days after the date on which the unit commences commercial operation; or

8.1.2.2.2.2 180 calendar days after the date on which the unit commences commercial operation.

8.1.2.3 For the owner or operator of a CO<sub>2</sub> budget unit for which construction of a new stack or flue installation is completed after the applicable deadline under subsections 8.1.2.1 or 8.1.2.2 of this regulation by the earlier of:

8.1.2.3.1 90 unit operating days after the date on which emissions first exit to the atmosphere through the new stack or flue; or

8.1.2.3.2 180 calendar days after the date on which emissions first exit to the atmosphere through the new stack or flue.

### 8.1.3 **Reporting data.**

8.1.3.1 Except as provided in subsection 8.1.3.2 of this regulation, the owner or operator of a CO<sub>2</sub> budget unit that does not meet the applicable compliance date set forth in subsections 8.1.2.1, 8.1.2.2 and 8.1.2.3 of this regulation for any monitoring system under subsection 8.1.1 of this regulation shall, for each such monitoring system, determine, record, and report maximum potential (or as appropriate minimum potential) values for CO<sub>2</sub> concentration, CO<sub>2</sub> emissions rate, stack gas moisture content, fuel flow rate, heat input, and any other parameter required to determine CO<sub>2</sub> mass emissions in accordance with 40 CFR 75.31(b)(2) or (c)(3), or section 2.4 of Appendix D of 40 CFR 75 as applicable.

8.1.3.2 The owner or operator of a CO<sub>2</sub> budget unit that does not meet the applicable compliance date set forth in subsection 8.2.3 of this regulation for any monitoring system under subsection 8.1.1 of this regulation shall, for each such monitoring system, determine, record, and report substitute data using the applicable missing data procedures in Subpart D, or Appendix D of 40 CFR 75, in lieu of the maximum potential (or as appropriate minimum potential) values for a parameter if the owner or operator demonstrates that there is continuity between the data streams for that parameter before and after the construction or installation under subsection 8.2.3 of this regulation.

8.1.3.3

8.1.3.3.1 CO<sub>2</sub> budget units subject to an acid rain emissions limitation (7 **DE Admin. Code** 1136) or the NO<sub>x</sub> Budget Trading Program (7 **DE Admin. Code** 1139) CSAPR NO<sub>x</sub> Ozone Season Trading Program that qualify for the optional SO<sub>2</sub>, NO<sub>x</sub>, and CO<sub>2</sub> (for acid rain) or NO<sub>x</sub> (for NO<sub>x</sub> Budget) emissions calculations for low mass emissions CSAPR NO<sub>x</sub> Ozone Season Trading Program (LME) units under 40 CFR 75.19 and report emissions for such programs using the calculations under 40 CFR 75.19, shall also use the CO<sub>2</sub> emissions

calculations for LME units under 40 CFR 75.19 for purposes of compliance with these regulations (7 DE Admin. Code 1139).

8.1.3.3.2 CO<sub>2</sub> budget units subject to an acid rain emissions limitation (7 DE Admin. Code 1136) or NO<sub>x</sub> Budget Trading program ~~GSAPR NO<sub>x</sub> Ozone Season Trading Program (Regulation 1139)~~ that do not qualify for the optional SO<sub>2</sub>, NO<sub>x</sub>, and CO<sub>2</sub> (for acid rain) or NO<sub>x</sub> (NO<sub>x</sub> Budget) emissions calculations for LME units under 40 CFR 75.19, shall not use the CO<sub>2</sub> emissions calculations for LME units under 40 CFR 75.19 for purposes of compliance with these regulations.

8.1.3.3.3 CO<sub>2</sub> budget units not subject to an acid rain emissions limitation (Regulation 1136) or NO<sub>x</sub> Budget Trading program ~~GSAPR NO<sub>x</sub> Ozone Season Trading Program (7 DE Admin. Code 1139)~~ shall qualify for the optional CO<sub>2</sub> emissions calculation for LME units under 40 CFR 75.19, provided that they emit less than 100 tons of NO<sub>x</sub> annually and no more than 25 tons of SO<sub>2</sub> annually.

#### 8.1.4 Prohibitions.

8.1.4.1 No owner or operator of a CO<sub>2</sub> budget unit shall use any alternative monitoring system, alternative reference method, or any other alternative for the required continuous emissions monitoring system without having obtained prior written approval in accordance with subsection 8.6 of this regulation.

8.1.4.2 No owner or operator of a CO<sub>2</sub> budget unit shall operate the unit so as to discharge, or allow to be discharged, CO<sub>2</sub> emissions to the atmosphere without accounting for all such emissions in accordance with the applicable provisions of this regulation and 40 CFR 75.

8.1.4.3 No owner or operator of a CO<sub>2</sub> budget unit shall disrupt the continuous emissions monitoring system, any portion thereof, or any other approved emissions monitoring method, and thereby avoid monitoring and recording CO<sub>2</sub> mass emissions discharged into the atmosphere, except for periods of recertification or periods when calibration, quality assurance testing, or maintenance is performed in accordance with the applicable provisions of this regulation and 40 CFR 75.

8.1.4.4 No owner or operator of a CO<sub>2</sub> budget unit shall retire or permanently discontinue use of the continuous emissions monitoring system, any component thereof, or any other approved emissions monitoring system under this regulation, except under any one of the following circumstances:

8.1.4.4.1 The owner or operator is monitoring emissions from the unit with another certified monitoring system approved, in accordance with the applicable provisions of this regulation and 40 CFR 75, by the Department for use at that unit that provides emissions data for the same pollutant or parameter as the retired or discontinued monitoring system; or

8.1.4.4.2 The CO<sub>2</sub> authorized account representative submits notification of the date of certification testing of a replacement monitoring system in accordance with subsection 8.2.4.3.1 of this regulation.

## 8.2 Initial certification and recertification procedures.

- 8.2.1 The owner or operator of a CO<sub>2</sub> budget unit shall be exempt from the initial certification requirements ~~of this regulation~~ for a monitoring system under subsection 8.1.1.1 of this regulation if the following conditions are met:
- 8.2.1.1 The monitoring system has been previously certified in accordance with 40 CFR 75; and
  - 8.2.1.2 The applicable quality-assurance and quality-control requirements of 40 CFR 75.21 and appendix B and appendix D of 40 CFR 75 are fully met for the certified monitoring system described in subsection 8.2.1.1 of this regulation.
- 8.2.2 The recertification provisions ~~of this regulation~~ shall apply to a monitoring system under subsection 8.1.1.1 exempt from initial certification requirements under subsection 8.2.1 of this regulation.
- 8.2.3 Notwithstanding subsection 8.2.1 of this regulation, if the Administrator has previously approved a petition under 40 CFR 75.72(b)(2)(ii), or 40 CFR 75.16(b)(2)(ii)(B) as pursuant to 40 CFR 75.13 for apportioning the CO<sub>2</sub> emissions rate measured in a common stack or a petition under 40 CFR 75.66 of this chapter for an alternative requirement in 40 CFR 75, the CO<sub>2</sub> authorized account representative shall submit the petition to the Department under subsection 8.6.1 of this regulation to determine whether the approval applies under this program.
- 8.2.4 Except as provided in subsection 8.2.1 of this regulation, the owner or operator of a CO<sub>2</sub> budget unit shall comply with the following initial certification and recertification procedures for a continuous emissions monitoring system and an excepted monitoring system under appendix D of 40 CFR 75 and under subsection 8.1.1.1 of this regulation. The owner or operator of a unit that qualifies to use the low mass emissions excepted monitoring methodology in 40 CFR 75.19 or that qualifies to use an alternative monitoring system under Subpart E of 40 CFR 75 shall comply with the procedures in subsections 8.5 and 8.6 of this regulation, respectively.
- 8.2.4.1 *Requirements for initial certification.* The owner or operator shall ensure that each continuous emissions monitoring system required under subsection 8.1.1.1 of this regulation (which includes the automated data acquisition and handling system) successfully completes all of the initial certification testing required under 40 CFR 75.20 by the applicable deadlines specified in subsection 8.1.2 of this regulation. In addition, whenever the owner or operator installs a monitoring system in order to meet the requirements ~~of this regulation~~ in a location where no such monitoring system was previously installed, initial certification in accordance with 40 CFR 75.20 is required.
  - 8.2.4.2 *Requirements for recertification.*
    - 8.2.4.2.1 Whenever the owner or operator makes a replacement, modification, or change in a certified continuous emissions monitoring system under subsection 8.1.1.1 of this regulation that the Administrator or the Department determines significantly affects the ability of the system to accurately measure or record CO<sub>2</sub> mass emissions or to meet the quality-assurance and quality-control requirements of 40 CFR 75.21 or appendix B to 40 CFR 75, the owner or operator shall recertify the monitoring system according to 40 CFR 75.20(b).

8.2.4.2.2 For systems using stack measurements such as stack flow, stack moisture content, CO<sub>2</sub> or O<sub>2</sub> monitors, whenever the owner or operator makes a replacement, modification, or change to the flue gas handling system or the unit's operation that the Administrator or the Department determines to significantly change the flow or concentration profile, the owner or operator shall recertify the continuous emissions monitoring system according to 40 CFR 75.20(b). Examples of changes which require recertification include: replacement of the analyzer, change in location or orientation of the sampling probe or site, or changing of flow rate monitor polynomial coefficients.

8.2.4.3 *Approval process for initial certifications and recertification.* Subsections 8.2.4.3.1 through 8.2.4.3.4 of this regulation apply to both initial certification and recertification of a monitoring system under subsection 8.1.1.1 of this regulation. For re-certifications, replace the words "certification" and "initial certification" with the word "recertification," replace the word "certified" with "recertified," and proceed in the manner prescribed in 40 CFR 75.20(b)(5) and (g)(7) in lieu of subsection 8.2.4.3.5 of this regulation.

8.2.4.3.1 *Notification of certification.* The CO<sub>2</sub> authorized account representative shall submit to the Department or its agent, the appropriate EPA Regional Office and the Administrator a written notice of the dates of certification in accordance with subsection 8.4 of this regulation.

8.2.4.3.2 *Certification application.* The CO<sub>2</sub> authorized account representative shall submit to the Department or its agent a certification application for each monitoring system. A complete certification application shall include the information specified in 40 CFR 75.63.

8.2.4.3.3 *Provisional certification data.* The provisional certification date for a monitor shall be determined in accordance with 40 CFR 75.20(a)(3). A provisionally certified monitor may be used under the CO<sub>2</sub> budget Trading Program for a period not to exceed 120 days after receipt by the Department of the complete certification application for the monitoring system or component thereof under subsection 8.2.4.3.2 of this regulation. Data measured and recorded by the provisionally certified monitoring system or component thereof, in accordance with the requirements of 40 CFR 75, will be considered valid quality-assured data (retroactive to the date and time of provisional certification), provided that the Department does not invalidate the provisional certification by issuing a notice of disapproval within 120 days of receipt of the complete certification application by the Department.

8.2.4.3.4 *Certification application approval process.* The Department will issue a written notice of approval or disapproval of the certification application to the owner or operator within 120 days of receipt of the complete certification application under subsection 8.2.4.3.2 of this regulation. In the event the Department does not issue such a notice within such 120-day period, each monitoring system which meets the applicable performance requirements of 40 CFR 75 and is included in the certification application will be deemed certified for use under the CO<sub>2</sub> Budget Trading Program.

8.2.4.3.4.1 *Approval notice.* If the certification application is complete and shows that each monitoring system meets the applicable performance requirements of 40

CFR 75, then the Department will issue a written notice of approval of the certification application within 120 days of receipt.

8.2.4.3.4.2 *Incomplete application notice.* If the certification application is not complete, then the Department will issue a written notice of incompleteness that sets a reasonable date by which the CO<sub>2</sub> authorized account representative must submit the additional information required to complete the certification application. If the CO<sub>2</sub> authorized account representative does not comply with the notice of incompleteness by the specified date, then the Department may issue a notice of disapproval under subsection 8.2.4.3.4.3 of this regulation. The 120 day review period shall not begin before receipt of a complete certification application

8.2.4.3.4.3 *Disapproval notice.* If the certification application shows that any monitoring system or component thereof does not meet the performance requirements of 40 CFR 75, or if the certification application is incomplete and the requirement for disapproval under subsection 8.2.4.3.4.2 of this regulation is met, then the Department will issue a written notice of disapproval of the certification application. Upon issuance of such notice of disapproval, the provisional certification is invalidated by the Department and the data measured and recorded by each uncertified monitoring system or component thereof shall not be considered valid quality assured data beginning with the date and hour of provisional certification. The owner or operator shall follow the procedures for loss of certification in subsection 8.2.4.3.5 of this regulation for each monitoring system or component thereof, which is disapproved for initial certification.

8.2.4.3.4.4 *Audit decertification.* The Department may issue a notice of disapproval of the certification status of a monitor in accordance with subsection 8.3.2 of this regulation.

8.2.4.3.5 *Procedures for loss of certification.* If the Department issues a notice of disapproval of a certification application under subsection 8.2.4.3.4.3 of this regulation or a notice of disapproval of certification status under subsection 8.2.4.3.4.4 of this regulation, then:

8.2.4.3.5.1 The owner or operator shall substitute the following values for each disapproved monitoring system, for each hour of unit operation during the period of invalid data beginning with the date and hour of provisional certification and continuing until the time, date, and hour specified under 40 CFR 75.20(a)(5)(i) or 40 CFR 75.20(g)(7):

8.2.4.3.5.1.1 For units using or intending to monitor for CO<sub>2</sub> mass emissions using heat input or for units using the low mass emissions excepted methodology under 40 CFR 75.19, the maximum potential hourly heat input of the unit; or

8.2.4.3.5.1.2 For units intending to monitor for CO<sub>2</sub> mass emissions using a CO<sub>2</sub> pollutant concentration monitor and a flow monitor, the maximum potential concentration of CO<sub>2</sub> and the maximum potential flow rate of the unit under section 2.1 of Appendix A of 40 CFR 75.

8.2.4.3.5.2 The CO<sub>2</sub> authorized account representative shall submit a notification of certification retest dates and a new certification application in accordance with subsections 8.2.4.3.1 and 8.2.4.3.2 of this regulation; and

8.2.4.3.5.3 The owner or operator shall repeat all certification tests or other requirements that were failed by the monitoring system, as indicated in the Department's notice of disapproval, no later than 30 unit operating days after the date of issuance of the notice of disapproval.

**8.2.5 *Initial certification and recertification procedures for low mass emissions units using the excepted methodologies under subsection 8.1.3.2 of this regulation.*** The owner or operator of a unit qualified to use the low mass emissions excepted methodology under subsection 8.1.3.2 of this regulation shall meet the applicable certification and recertification requirements of 40 CFR 75.19(a)(2), 40 CFR 75.20(h) and subsection 8.2 of this regulation. If the owner or operator of such a unit elects to certify a fuel flow meter system for heat input determinations, the owner or operator shall also meet the certification and recertification requirements in 40 CFR 75.20(g).

**8.2.6 *Certification/recertification procedures for alternative monitoring systems.*** The CO<sub>2</sub> authorized account of each unit for which the owner or operator intends to use an alternative monitoring system approved by the Administrator and, if applicable, the Department under Subpart E of 40 CFR 75 shall comply with the applicable notification and application procedures of 40 CFR 75.20(f).

### **8.3 Out-of-control periods.**

**8.3.1** Whenever any monitoring system fails to meet the quality assurance and quality control requirements or data validation requirements of 40 CFR 75, data shall be substituted using the applicable procedures in Subpart D or Appendix D of 40 CFR 75.

**8.3.2 *Audit decertification.*** Whenever both an audit of a monitoring system and a review of the initial certification or recertification application reveal that any monitoring system should not have been certified or recertified because it did not meet a particular performance specification or other requirement under subsection 8.2 of this regulation or the applicable provisions of 40 CFR 75, both at the time of the initial certification or recertification application submission and at the time of the audit, the Department or Administrator will issue a notice of disapproval of the certification status of such monitoring system. For the purposes of this paragraph, an audit shall be either a field audit or an audit of any information submitted to the Department or the Administrator. By issuing the notice of disapproval, the Department or Administrator revokes prospectively the certification status of the monitoring system. The data measured and recorded by the monitoring system shall not be considered valid quality-assured data from the date of issuance of the notification of the revoked certification status until the date and time that the owner or operator completes subsequently approved initial certification or recertification tests for the monitoring system. The owner or operator shall follow the initial certification or recertification procedures in subsection 8.2 of this regulation for each disapproved monitoring system.

### **8.4 Notifications.**

The CO<sub>2</sub> authorized account representative for a CO<sub>2</sub> budget unit shall submit written notice to the Department and the Administrator in accordance with 40 CFR 75.61.

### **8.5 Recordkeeping and reporting.**

- 8.5.1 General provisions.** The CO<sub>2</sub> authorized account representative shall comply with all recordkeeping and reporting requirements in this regulation, the applicable record keeping and reporting requirements under 40 CFR 75.73 and with the requirements of subsection 2.1.5 of this regulation.
- 8.5.2 Monitoring plans.** The owner or operator of a CO<sub>2</sub> budget unit shall submit a monitoring plan in the manner prescribed in 40 CFR 75.62.
- 8.5.3 Certification applications.** The CO<sub>2</sub> authorized account representative shall submit an application to the Department within 45 days after completing all CO<sub>2</sub> monitoring system initial certification or recertification tests required under subsection 8.2 of this regulation including the information required under 40 CFR 75.63 and 40 CFR 75.53(e) and (f).
- 8.5.4 Quarterly reports.** The CO<sub>2</sub> authorized account representative shall submit quarterly reports, as follows:
- 8.5.4.1 The CO<sub>2</sub> authorized account representative shall report the CO<sub>2</sub> mass emissions data for the CO<sub>2</sub> budget unit, in an electronic format prescribed by the Administrator unless otherwise prescribed by the Department for each calendar quarter beginning with:
- 8.5.4.1.1 for a unit that commences commercial operation before July 1, 2008, the calendar quarter covering January 1, 2009 through March 31, 2009; or
- 8.5.4.1.2 for a unit commencing commercial operation on or after July 1, 2008, the calendar quarter corresponding to, the earlier of the date of provisional certification or the applicable deadline for initial certification under subsection 8.1.2 of this regulation or, unless that quarter is the third or fourth quarter of 2008, in which case reporting shall commence in the quarter covering January 1, 2009 through March 31, 2009.
- 8.5.4.2 The CO<sub>2</sub> authorized account representative shall submit each quarterly report to the Department or its agent within 30 days following the end of the calendar quarter covered by the report. Quarterly reports shall be submitted in the manner specified in Subpart H of 40 CFR 75 and 40 CFR 75.64. Quarterly reports shall be submitted for each CO<sub>2</sub> budget unit (or group of units using a common stack), and shall include all of the data and information required in Subpart G of 40 CFR 75, except for opacity, NO<sub>x</sub>, and SO<sub>2</sub> provisions.
- 8.5.4.3 **Compliance certification.** The CO<sub>2</sub> authorized account representative shall submit to the Department or its agent a compliance certification in support of each quarterly report based on reasonable inquiry of those persons with primary responsibility for ensuring that all of the unit's emissions are correctly and fully monitored. The certification shall state that:
- 8.5.4.3.1 The monitoring data submitted were recorded in accordance with the applicable requirements of this regulation and 40 CFR 75, including the quality assurance procedures and specifications;
- 8.5.4.3.2 for a unit with add-on CO<sub>2</sub> emissions controls and for all hours where data are substituted in accordance with 40 CFR 75.34(a)(1), the add-on emissions controls were operating within the range of parameters listed in the quality assurance/quality control program under appendix B of 40 CFR 75 and the substitute values do not systematically underestimate CO<sub>2</sub> emissions; and

8.5.4.3.3 The CO<sub>2</sub> concentration values substituted for missing data under Subpart D of 40 CFR 75 do not systematically underestimate CO<sub>2</sub> emissions.

## 8.6 Petitions.

8.6.1 Except as provided in subsection 8.6.3 of this regulation, the CO<sub>2</sub> authorized account representative of a CO<sub>2</sub> budget unit that is subject to an Acid Rain emissions limitation may submit a petition to the Administrator under 40 CFR 75.66 and to the Department requesting approval to apply an alternative to any requirement of 40 CFR 75. Application of an alternative to any requirement of 40 CFR 75 is in accordance with this regulation only to the extent that the petition is approved in writing by the Administrator, and subsequently approved in writing by the Department.

### 8.6.2 Petitions for a CO<sub>2</sub> budget unit that is not subject to an Acid Rain emissions limitation.

8.6.2.1 The CO<sub>2</sub> authorized account representative of a CO<sub>2</sub> budget unit that is not subject to an Acid Rain emissions limitation may submit a petition to the Administrator under 40 CFR 75.66 and to the Department requesting approval to apply an alternative to any requirement of 40 CFR 75. Application of an alternative to any requirement of 40 CFR 75 is in accordance with this regulation only to the extent that the petition is approved in writing by the Administrator and subsequently approved in writing by the Department.

8.6.2.2 In the event that the Administrator declines to review a petition under subsection 8.6.2.1 of this regulation, the CO<sub>2</sub> authorized account representative of a CO<sub>2</sub> budget unit that is not subject to an Acid Rain emissions limitation may submit a petition to the Department requesting approval to apply an alternative to any requirement of Section 8.0 of this regulation. That petition shall contain all of the relevant information specified in 40 CFR 75.66. Application of an alternative to any requirement of Section 8.0 of this regulation is in accordance with Section 8.0 only to the extent that the petition is approved in writing by the Department.

8.6.3 The CO<sub>2</sub> authorized account representative of a CO<sub>2</sub> budget unit that is subject to an Acid Rain emissions limitation may submit a petition to the Administrator under 40 CFR 75.66 and to the Department requesting approval to apply an alternative to a requirement concerning any additional CEMS required under the common stack provisions of 40 CFR 75.72 or a CO<sub>2</sub> concentration CEMS used under 40 CFR 75.71(a)(2). Application of an alternative to any such requirement is in accordance with this regulation only to the extent the petition is approved in writing by the Administrator and subsequently approved in writing by the Department.

## 8.7 CO<sub>2</sub> budget units that co-fire eligible biomass.

8.7.1 The CO<sub>2</sub> authorized account representative of a CO<sub>2</sub> budget unit that co-fires eligible biomass as a compliance mechanism under this regulation shall report the following information to the Department or its agent for each calendar quarter:

8.7.1.1 For each shipment of solid eligible biomass fuel fired at the CO<sub>2</sub> budget unit, the total eligible biomass fuel input, on an as-fired basis, in pounds.

8.7.1.2 For each shipment of solid eligible biomass fuel fired at the CO<sub>2</sub> budget unit, the moisture content, on an as-fired basis, as a fraction by weight.

- 8.7.1.3 For each distinct type of gaseous eligible biomass fuel fired at the CO<sub>2</sub> budget unit, the density of the biogas, on an as-fired basis, in pounds per standard cubic foot.
- 8.7.1.4 For each distinct type of gaseous eligible biomass fuel fired at the CO<sub>2</sub> budget unit, the moisture content of the biogas, as a fraction by total weight.
- 8.7.1.5 For each distinct type of gaseous eligible biomass fuel fired at the CO<sub>2</sub> budget unit, the total eligible biomass fuel input, in standard cubic feet.
- 8.7.1.6 For each distinct type of eligible biomass fuel fired at the CO<sub>2</sub> budget unit, the dry basis carbon content of the fuel type, as a fraction by dry weight.
- 8.7.1.7 For each distinct type of eligible biomass fuel fired at the CO<sub>2</sub> budget unit, the dry basis higher heating value, in MMBtu per dry pound.
- 8.7.1.8 For each distinct type of eligible biomass fuel fired at the CO<sub>2</sub> budget unit, the total dry basis eligible biomass fuel input, in pounds, calculated in accordance with subsection 8.7.2 of this regulation.
- 8.7.1.9 The total amount of CO<sub>2</sub> emitted from the CO<sub>2</sub> budget unit due to firing eligible biomass fuel, in tons, calculated in accordance with subsection 8.7.3 of this regulation.
- 8.7.1.10 For each distinct type of eligible biomass fuel fired at the CO<sub>2</sub> budget unit, the total eligible biomass fuel heat input, in MMBtu, calculated in accordance with subsection 8.7.4.1 of this regulation.
- 8.7.1.11 The total amount of heat input to the CO<sub>2</sub> budget unit due to firing eligible biomass fuel, in MMBtu, calculated in accordance with subsection 8.7.4.2 of this regulation.
- 8.7.1.12 Description and documentation of monitoring technology employed, and description and documentation of fuel sampling methodology employed, including sampling frequency; and,
- 8.7.1.13 For each distinct type of eligible biomass fuel fired at the CO<sub>2</sub> budget unit, chemical analysis, including heating value and carbon content.

**8.7.2** An owner or operator of a CO<sub>2</sub> budget unit shall calculate and submit to the Department or its agent on a quarterly basis the total dry weight for each distinct type of eligible biomass fired by the CO<sub>2</sub> budget unit during the reporting quarter. The total dry weight shall be determined for each fuel type as follows:

8.7.2.1 For solid fuel types:

$$F_j = \frac{\sum_{i=1}^m (1 - M_i) \times F_i}{1}$$

$$F_j = \sum_{i=1}^m (1 - M_i) \times F_i$$

Where:

F<sub>j</sub> = Total eligible biomass dry basis fuel input (lbs) for fuel type j;

$F_i$  = Eligible biomass as fired fuel input (lbs) for fired shipment  $i$ ;  
 $M_i$  = Moisture content (fraction) for fired shipment  $i$ ;  
 $i$  = fired fuel shipment;  
 $j$  = fuel type; and,  
 $m$  = number of shipments.

8.7.2.2 For gaseous fuel types:

$$F_j = D_j \times V_j \times (1 - M_j)$$

Where:

$F_j$  = Total eligible biomass dry basis fuel input (lbs) for fuel type  $j$ ;  
 $D_j$  = Density of biogas (lbs/scf) for fuel type  $j$ ;  
 $V_j$  = Total volume (scf) for fuel type  $j$ ;  
 $M_j$  = Moisture content (fraction) for fuel type  $j$ ;  
 $j$  = fuel type.

8.7.3 CO<sub>2</sub> emissions due to firing of eligible biomass shall be determined as follows:

8.7.3.1 For any full calendar quarter during which no fuel other than eligible biomass is combusted at the CO<sub>2</sub> budget unit, as measured and recorded in accordance with subsections 8.1 through 8.6 of this regulation; or

8.7.3.2 For any full calendar quarter during which fuels other than eligible biomass are combusted at the CO<sub>2</sub> budget unit, as determined using the following equation:

$$\text{CO}_2 \text{ tons} = \sum_{j=1}^n F_j \times C_j \times O_j \times 44/12 \times 0.0005$$

$$\text{CO}_2 \text{ tons} = \sum_{j=1}^n F_j \times C_j \times O_j \times 44/12 \times 0.0005$$

Where:

CO<sub>2</sub> tons = CO<sub>2</sub> emissions due to firing of eligible biomass for the reporting quarter;

$F_j$  = Total eligible biomass dry basis fuel input (lbs) for fuel type  $j$ , as calculated in subsection 8.7.2 of this regulation;

$C_j$  = carbon fraction (dry basis) for fuel type  $j$ ;

$O_j$  = Oxidation factor for eligible biomass fuel type  $j$ , derived for solid fuels based on the ash content of the eligible biomass fired and the carbon content of this ash, as determined pursuant to subsection 8.7.1.12 of this regulation; for gaseous eligible biomass fuels, a default oxidation factor of 0.995 may be used;

44/12 = The number of tons of carbon dioxide that are created when one ton of carbon is combusted (44/12);

0.0005 = The number of short tons which is equal to one pound;

$j$  = fuel type; and,

$n$  = number of distinct fuel types.

**8.7.4** Heat input due to firing of eligible biomass for each quarter shall be determined as follows:

8.7.4.1 For each distinct fuel type:

$$H_j = F_j \times HHV_j \times 0.0005$$

Where:

$H_j$  = Heat input (MMBtu) for fuel type  $j$ ;

$F_j$  = Total eligible biomass dry basis fuel input (lbs) for fuel type  $j$ , as calculated in subsection 8.7(b).2;

$HHV_j$  = Higher heating value (MMBtu/lb), dry basis, for fuel type  $j$ , as determined through chemical analysis;

$j$  = fuel type.

8.7.4.2 For all fuel types:

$$\text{Heat Input MMBtu} = \sum_{j=1}^n H_j$$

$$\text{Heat Input MMBtu} = \sum_{j=1}^n H_j$$

Where:

$H_j$  = Heat input (MMBtu) for fuel type  $j$ ;

$j$  = fuel type; and,

$n$  = number of distinct fuel types.

**8.7.5** Fuel sampling methods and fuel sampling technology shall be consistent with the New York State Renewable Portfolio Standard Biomass Guidebook, September 2011.

## **8.8 Additional requirements to provide output data.**

**8.8.1** A CO<sub>2</sub> budget unit that requires the use of information submitted to the Regional Transmission Organization (RTO) to document megawatt-hours (MWh) the CO<sub>2</sub> budget unit produces shall submit to the Department or its agent the same MWh value submitted to the RTO and a statement certifying that the MWh of electrical output reported reflects the total actual electrical output for all CO<sub>2</sub> budget units at the facility used by the RTO to determine settlement resources of energy market participants.

**8.8.2** A CO<sub>2</sub> budget unit that requires gross output to be used that also reports gross hourly MW to the Administrator, shall use the same electronic data report (EDR) gross output (in MW), as submitted to the Administrator, for the hour times operating time in the hour, added for all hours in a year. A CO<sub>2</sub> budget unit that does not report gross hourly MW to the Administrator shall submit to the Department or its agent information in accordance with subsection 8.8.5.1.

**8.8.3** A CO<sub>2</sub> budget unit that requires net electrical output shall submit to the Department or its agent information in accordance with subsection 8.8.5.1. A CO<sub>2</sub> budget source whose electrical output is not used in the RTO energy market settlement determinations shall propose to the Department a method for quantification of net electrical output.

- 8.8.4** CO<sub>2</sub> budget sources selling steam should use billing meters to determine net steam output. A CO<sub>2</sub> budget source whose steam output is not measured by billing meters or whose steam output is combined with output from a non-CO<sub>2</sub> budget unit prior to measurement by the billing meter shall propose to the Department an alternative method for quantification of net steam output. If data for steam output is not available, the CO<sub>2</sub> budget source may report heat input providing useful steam output as a surrogate for steam output.
- 8.8.5** **Monitoring.** The owner or operator of each CO<sub>2</sub> budget unit, in a state that requires the CO<sub>2</sub> budget unit's net output, must meet the following requirements. Each CO<sub>2</sub> budget source must submit an output monitoring plan. The output monitoring plan must include a description and diagram as stated below.
- 8.8.5.1 Submit a diagram of the electrical and/or steam system for which output is being monitored, specifically including the following.
- 8.8.5.1.1 If the CO<sub>2</sub> budget unit monitors net electric output, the diagram should contain all CO<sub>2</sub> budget units and all generators served by each CO<sub>2</sub> budget unit and the relationship between CO<sub>2</sub> budget units and generators. If a generator served by a CO<sub>2</sub> budget unit is also served by a non-affected unit, the non-affected unit and its relationship to each generator should be indicated on the diagram as well. The diagram should indicate where the net electric output is measured and should include all electrical inputs and outputs to and from the plant. If net electric output is determined using a billing meter, the diagram should show each billing meter used to determine net sales of electricity and should show that all electricity measured at the point of sale is generated by the CO<sub>2</sub> budget units.
- 8.8.5.1.2 If the CO<sub>2</sub> budget unit monitors net thermal output, the diagram should include all steam or hot water coming into the net steam system, including steam from CO<sub>2</sub> budget units and non-affected units, and all exit points of steam or hot water from the net steam system. In addition, each input and output stream will have an estimated temperature, pressure and phase indicator, and an enthalpy in Btu/lb. The diagram of the net steam system should identify all useful loads, house loads, parasitic loads, any other steam loads and all boiler feedwater returns. The diagram will represent all energy losses in the system as either usable or unusable losses. The diagram will also indicate all flow meters, temperature or pressure sensors or other equipment used to calculate gross thermal output. If a sales agreement is used to determine net thermal output, the diagram should show the monitoring equipment used to determine the sales of steam.
- 8.8.5.2 Submit a description of each output monitoring system. The description of the output monitoring system should include a written description of the output system and the equations used to calculate output. For net thermal output systems descriptions and justifications of each useful load should be included.
- 8.8.5.3 Submit a detailed description of all quality assurance/quality control activities that will be performed to maintain the output system in accordance with subsection 8.8.5 of this regulation.
- 8.8.5.4 Submit documentation supporting any output value(s) to be used as a missing data value should there be periods of invalid output data. The missing data output value must be either zero or an output value that is likely to be lower than a

measured value and that is approved as part of the monitoring plan required under this regulation.

**8.8.6 Initial certification.** A certification statement must be submitted by the CO<sub>2</sub> authorized account representative stating that either the output monitoring system consists entirely of billing meters or that the output monitoring system meets one of the accuracy requirements for non-billing meters at subsection 8.8.4.2 of this regulation. This statement may be submitted with the certification application required under subsection 8.5.3 of this regulation.

8.8.6.1 *Billing meters.* The billing meter must record the electric or thermal output. Any electric or thermal output values that the facility reports must be the same as the values used in billing for the output. Any output measurement equipment used as a billing meter in commercial transactions requires no additional certification or testing.

8.8.6.2 *Non-billing meters.* For non-billing meters, the output monitoring system must either meet an accuracy of within 10% of the reference value, or each component monitor for the output system must meet an accuracy of within 3% of the full scale value, whichever is less stringent.

8.8.6.2.1 *System approach to accuracy.* The system approach to accuracy must include a determination of how the system accuracy of 10% is achieved using the individual components in the system and should include data loggers and any watt-meters used to calculate the final net electric output data and/or any flow meters for steam or condensate, temperature measurement devices, absolute pressure measurement devices, and differential pressure devices used for measuring thermal energy.

8.8.6.2.2 *Component approach to accuracy.* If testing a piece of output measurement equipment shows that the output readings are not accurate to within 3.0 percent of the full scale value, then the equipment should be repaired or replaced to meet that requirement. Data shall remain invalid until the output measurement equipment passes an accuracy test or is replaced with another piece of equipment that passes the accuracy test.

**8.8.7 Ongoing QA/QC.** Ongoing quality assurance/quality control activities must be performed in order to maintain the output system.

8.8.7.1 *Billing meters.* In the case where billing meters are used to determine output, no QA/QC activities beyond what are already performed are required.

8.8.7.2 *Non-billing meters.* Certain types of equipment such as potential transformers, current transformers, nozzle and ~~venture~~ venturi type meters, and the primary element of an orifice plate only require an initial certification of calibration and do not require periodic recalibration unless the equipment is physically changed. However, the pressure and temperature transmitters accompanying an orifice plate will require periodic retesting. For other types of equipment, either recalibrate or re-verify the meter accuracy at least once every two years (i.e., every eight calendar quarters), unless a consensus standard allows for less frequent calibrations or accuracy tests. For non-billing meters, the output monitoring system must either meet an accuracy of within 10% of the reference value, or each component monitor for the output system must meet an accuracy of within 3% of the full scale value, whichever is less stringent. If testing a piece of output

measurement equipment shows that the output readings are not accurate to within 3.0 percent of the full scale value, then the equipment should be repaired or replaced to meet that requirement.

- 8.8.7.3 *Out-of-control periods.* If testing a piece of output measurement equipment shows that the output readings are not accurate to the certification value, data remain invalid until the output measurement equipment passes an accuracy test or is replaced with another piece of equipment that passes the accuracy test. All invalid data shall be replaced by either zero or an output value that is likely to be lower than a measured value and that is approved as part of the monitoring plan required under subsection 8.8.5 of this regulation.

#### **8.8.8 Recordkeeping and reporting.**

- 8.8.8.1 *General provisions.* The CO<sub>2</sub> authorized account representative shall comply with all recordkeeping and reporting requirements in this regulation and with the requirements of subsections 1.5.5 and 2.1.5 of this regulation.
- 8.8.8.2 *Recordkeeping.* Facilities shall retain data used to monitor, determine, or calculate net generation for ten years.
- 8.8.8.3 *Annual reports.* The CO<sub>2</sub> authorized account representative shall submit annual output reports, as follows. The data must be sent both electronically and in hardcopy by March 1 for the immediately preceding calendar year to the Department or its agent. The annual report shall include unit level MWh, all useful steam output and a certification statement from the CO<sub>2</sub> authorized account representative stating the following,

*"I am authorized to make this submission on behalf of the owners and operators of the CO<sub>2</sub> budget sources or CO<sub>2</sub> budget units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment."*

#### **17 DE Reg. 644 (12/01/13)**

~~12/11/13XX/XX/XX~~

### **9.0 Auction of CO<sub>2</sub> CCR and ECR allowances**

#### **9.1 Purpose.**

- 9.1.1 The following rules shall apply to each allowance auction. The Department may specify additional information in the auction notice for each auction. Such additional information may include the time and location of the auction, auction rules, registration deadlines, and any additional information deemed necessary or useful.

## 9.2 General Requirements

9.2.1 The Department or its agent shall include the following information in the auction notice for each auction:

9.2.1.1 The number of CO<sub>2</sub> allowances offered for sale at the auction, not including any CO<sub>2</sub> CCR allowances;

9.2.1.2 The number of CO<sub>2</sub> CCR allowances that will be offered for sale at the auction if the condition of subsection 9.2.2.1 of this section is met;

9.2.1.3 The minimum reserve price for the auction; and

9.2.1.4 The CCR trigger price for the auction;

9.2.1.5 The maximum number of CO<sub>2</sub> allowances that may be withheld from sale at the auction if the condition of subsection 9.2.4.1 of this section is met; and

9.2.1.6 The ECR trigger price for the auction.

9.2.2 The Department shall follow these rules for the sale of CO<sub>2</sub> CCR allowances:

9.2.2.1 CO<sub>2</sub> CCR allowances shall only be sold at an auction in which total demand for allowances, above the CCR trigger price, exceeds the number of CO<sub>2</sub> allowances available for purchase at the auction, not including any CO<sub>2</sub> CCR allowances.

9.2.2.2 If the condition of subsection 9.2.2.1 of this regulation is met at an auction, then the number of CO<sub>2</sub> CCR allowances offered for sale by the Department at the auction shall be equal to the number of CO<sub>2</sub> CCR allowances in the State of Delaware auction account at the time of the auction.

9.2.2.3 After all of the CO<sub>2</sub> CCR allowances in the State of Delaware auction have been sold in a given calendar year, no CO<sub>2</sub> CCR allowances will be sold at the auction, even if the condition of subsection 9.2.2.1 of this regulation is met at an auction; and

9.2.2.4 At an auction in which CO<sub>2</sub> CCR allowances are sold, the reserve price at for the auction shall be the CCR trigger price.

9.2.2.5 If the condition of subsection 9.2.2.1 of this regulation is not satisfied, no CO<sub>2</sub> CCR allowances shall be offered for sale at the auction, and the reserve price for the auction shall be equal to the minimum reserve prices.

9.2.3 The Department shall implement the reserve price in the following manner:

9.2.3.1 No allowances shall be sold at any auction for a price below the reserve price for that auction; and

9.2.3.2 If the total demand for allowances at an auction is less than or equal to the total number of allowances made available for sale in that auction, then the auction clearing price for the auction shall be the reserve price.

9.2.4 The Department or its agent shall follow these rules for the withholding of CO<sub>2</sub> ECR allowances from an auction:

9.2.4.1 CO<sub>2</sub> ECR allowances shall only be withheld from an auction if the demand for allowances would result in an auction clearing price that is less than the ECR trigger price prior to the withholding from the auction of any ECR allowances.

9.2.4.2 If the condition in subsection 9.2.4.1 of this regulation is met at an auction, then the maximum number of CO<sub>2</sub> ECR allowances that may be withheld from that auction will be equal to the quantity shown in subsection 5.3.5.1 of this regulation minus the total quantity of CO<sub>2</sub> ECR allowances that have been withheld from any prior auction in that calendar year. Any CO<sub>2</sub> ECR allowances withheld from an auction will be transferred into the State of Delaware ECR Account.

## 17 DE Reg. 644 (12/01/13)

~~12/11/13~~XX/XX/XX

### 10.0 CO<sub>2</sub> Emissions Offset Projects

#### 10.1 Purpose

The Department will provide for the award of CO<sub>2</sub> offset allowances to sponsors of CO<sub>2</sub> emissions offset projects that have reduced or avoided atmospheric loading of CO<sub>2</sub>, CO<sub>2</sub> equivalent or sequestered carbon as demonstrated in accordance with the applicable provisions of this regulation. The requirements of this regulation seek to ensure that CO<sub>2</sub> offset allowances awarded represent CO<sub>2</sub> equivalent emission reductions or carbon sequestration that are real, additional, verifiable, enforceable, and permanent within the framework of a standards-based approach. Subject to the relevant compliance deduction limitations of subsection 6.5.1.3 of this regulation, CO<sub>2</sub> offset allowances may be used by any CO<sub>2</sub> budget source for compliance purposes.

#### 10.2 RESERVED

#### 10.3 General requirements

**10.3.1 Eligible CO<sub>2</sub> emissions offset projects.** To qualify for the award of CO<sub>2</sub> offset allowances, offset projects shall satisfy all the applicable requirements of Section 10.0 of this regulation.

10.3.1.1 *Offset project types.* The following types of offset projects are eligible for the award of CO<sub>2</sub> offset allowances.

10.3.1.1.1 Landfill methane capture and destruction;

~~10.3.1.1.2 Reduction in emissions of sulfur hexafluoride (SF<sub>6</sub>);~~

10.3.1.1.3~~2~~ Sequestration of carbon due to reforestation, improved forest management, or avoided conversion;

~~10.3.1.1.4 Reduction or avoidance of CO<sub>2</sub> emissions from natural gas, oil, or propane end-use combustion due to end-use energy efficiency; and~~

10.3.1.1.5<sup>53</sup> Avoided methane emissions from agricultural manure management operations.

10.3.1.2 *Offset project locations.* To qualify for the award of CO<sub>2</sub> allowances under Section 10.0 of this regulation, eligible offset projects may be located in any of the following locations:

~~10.3.1.2.1 To qualify for the award of CO<sub>2</sub> allowances under Section 10.0 of this regulation, eligible offset projects may be located in any of the following locations:~~

~~\_\_\_ 10.3.1.2.1.1 In the State of Delaware~~

~~\_\_\_ 10.3.1.2.2<sup>1</sup> In any state or United States jurisdiction in which a cooperating regulatory agency has entered into a memorandum of understanding with the appropriate regulatory agencies of all participating states to carry out certain obligations relative to CO<sub>2</sub> emissions offset projects in that state or U.S. jurisdiction, including but not limited to the obligation to perform audits of offset project sites, and report violations of Section 10.0.~~

10.3.1.2.2.4 Projects located (in whole or in part) in one or more participating states are not eligible for CO<sub>2</sub> offset allowances under Section 10.0 unless more of the CO<sub>2</sub> equivalent emissions reduction or carbon sequestration due to the offset project is projected to occur in the State of Delaware than in any other participating state.

~~10.3.1.2.2.1 Projects located (in whole or in part) in one or more participating states are not eligible for CO<sub>2</sub> offset allowances under Section 10.0 unless more of the CO<sub>2</sub> equivalent emissions reduction or carbon sequestration due to the offset project is projected to occur in the State of Delaware than in any other participating state.~~

**10.3.2 Project sponsor.** Any person may act as the sponsor of an eligible CO<sub>2</sub> emissions offset project or CO<sub>2</sub> emissions credit retirement, provided that person meets the requirements at subsection 10.4 of this regulation.

**10.3.3 General additionality requirements.** Except as provided with respect to specific offset project standards in subsection 10.5 of this regulation, the following general requirements shall apply.

10.3.3.1 CO<sub>2</sub> offset allowances shall not be awarded to an offset project or CO<sub>2</sub> emissions credit retirement that is required pursuant to any local, state or federal law, regulation, or administrative or judicial order. If an offset project receives a consistency determination under subsection 10.4 of this regulation and is later required by local, state or federal law, regulation, or administrative or judicial order, then the offset project shall remain eligible for the award of CO<sub>2</sub> offset allowances until the end of its current allocation period but its eligibility shall not be extended for an additional allocation period.

- 10.3.3.2 CO<sub>2</sub> offset allowances shall not be awarded to an offset project that includes an electric generation component, unless the project sponsor transfers legal rights to any and all attribute credits (other than the CO<sub>2</sub> offset allowances awarded under subsection 10.7 of this regulation) generated from the operation of the offset project that may be used for compliance with a renewable portfolio standard or other regulatory requirement, to the Department or its agent.
- 10.3.3.3 CO<sub>2</sub> offset allowances shall not be awarded to an offset project that receives funding or other incentives from any system benefit fund, or funds or other incentives provided through the consumer benefit or strategic energy purpose allocation required pursuant to subsection 5.3.2 of this regulation.
- 10.3.3.4 CO<sub>2</sub> offset allowances shall not be awarded to an offset project or CO<sub>2</sub> emissions credit retirement that is awarded credits or allowances under any other mandatory or voluntary greenhouse gas program, except as described in subsection 10.5.2.10 of this regulation.

#### **10.3.4 Maximum allocation periods for CO<sub>2</sub> emissions offset projects.**

- 10.3.4.1 *Maximum allocation periods.* Except as provided in subsection 10.3.5.2 of this regulation, the Department may award CO<sub>2</sub> offset allowances under subsection 10.7 of this regulation for an initial 10-year allocation period. At the end of the initial 10-year allocation period, the Department may award CO<sub>2</sub> offset allowances for a second 10-year allocation period, provided the offset sponsor has submitted a consistency application pursuant to subsection 10.4 of this regulation prior to the expiration of the initial allocation period, and the Department has issued a consistency determination pursuant to subsection 10.4.5.2 of this regulation.
- 10.3.4.2 *Maximum allocation period for involving reforestation, improved forest management, or avoided conversion.* The Department may award CO<sub>2</sub> offset allowances under subsection 10.7 of this regulation for any involving reforestation, improved forest management, or avoided conversion offset project for an initial 20-year allocation period. At the end of the initial 25-year allocation period, or any subsequent crediting period the Department may award CO<sub>2</sub> offset allowances for a second 25-year allocation period, provided the offset sponsor has submitted a consistency application for the offset project pursuant to subsection 10.4 of this regulation prior to the expiration of the initial allocation period, and the Department has issued a consistency determination pursuant to subsection 10.4.5.2 of this regulation.
- 10.3.5 *Offset project audit.* Project sponsors shall provide, in writing, an access agreement to the Department granting the Department or its agent access to the physical location of the offset project to inspect for compliance with this regulation. For offset projects located in any state or other U.S. jurisdiction that is not a participating state, project sponsors shall also provide, in writing, an access agreement to the Department granting the cooperating regulatory agency with access to the physical location of the offset project to inspect for compliance with this regulation.
- 10.3.6 *Ineligibility due to noncompliance.*
  - 10.3.6.1 If at any time the Department determines that a project sponsor has not complied with the requirements ~~of this regulation~~, then the Department may revoke and retire any and all CO<sub>2</sub> offset allowances in the project sponsor's account.

10.3.6.2 If at any time the Department determines that an offset project does not comply with the requirements ~~of this regulation~~, then the Department may revoke any approvals it has issued relative to an offset project.

#### 10.4 Application process

10.4.1 *Establishment of general account.* The sponsor of an offset project must establish a general account under subsection 6.2.2 of this regulation. All submissions to the Department required for the award of CO<sub>2</sub> offset allowances under this regulation must be from the CO<sub>2</sub> authorized account representative for the general account of the sponsor of the relevant offset project herein referred to as "project sponsor."

#### 10.4.2 *Consistency application deadlines.*

10.4.2.1 For offset projects not involving reforestation, improved forest management, or avoided conversion the consistency application must be submitted by the date that is 6 months after the offset project is commenced.

10.4.2.2 For offset projects involving reforestation, improved forest management, or avoided conversion the consistency application must be submitted by the date that is one year after the offset project is commenced, except for as described in subsection 10.5.3.9.

10.4.2.3 Any consistency application that fails to meet the deadlines ~~of this regulation~~ will result in the denial of the consistency application and the continued ineligibility of the subject offset project.

#### 10.4.3 *Consistency application contents.*

10.4.3.1 For an offset project, the consistency application must include the following information.

10.4.3.1.1 The project's sponsor's name, address, e-mail address, telephone number, facsimile transmission number, and account number.

10.4.3.1.2 The offset project description as required by the relevant provisions of subsection 10.5 of this regulation.

10.4.3.1.3 A demonstration that the offset project meets all applicable requirements set forth in this regulation.

10.4.3.1.4 The emissions baseline determination as required by the relevant provisions of subsection 10.5 of this regulation.

10.4.3.1.5 An explanation of how the projected reduction or avoidance of atmospheric loading of CO<sub>2</sub> or CO<sub>2</sub> equivalent or the sequestration of carbon is to be quantified, monitored, and verified as required by the relevant provisions of subsection 10.5 of this regulation.

10.4.3.1.6 A completed consistency application agreement that reads as follows:

*"The undersigned project sponsor recognizes and accepts that the application for, and the receipt of, CO<sub>2</sub> offset allowances under the CO<sub>2</sub>*

*Budget Trading Program is predicated on the project sponsor following all the requirements of Section 10.0 of this regulation. The undersigned project sponsor holds the legal rights to the offset project, or has been granted the right to act on behalf of a party that holds the legal rights to the offset project. I understand that eligibility for the award of CO<sub>2</sub> offset allowances under Section 10.0 of this regulation is contingent on meeting the requirements of Section 10.0 of this regulation. I authorize the Department or its agent to audit this offset project for purposes of verifying that the offset project, including the monitoring and verification plan, has been implemented as described in this application. I understand that this right to audit shall include the right to enter the physical location of the offset project. I submit to the legal jurisdiction of the State of Delaware."*

- 10.4.3.1.7 A statement and certification report signed by the offset project sponsor certifying that all offset projects for which the sponsor has received CO<sub>2</sub> offset allowances under this regulation (or similar provisions in the rules of other participating states), under the sponsor's ownership or control (or under the ownership or control of any entity which controls, is controlled by, or has common control with the sponsor) are in compliance with all applicable requirements of the CO<sub>2</sub> Budget Trading Program in all participating states.
  - 10.4.3.1.8 A verification report and certification statement signed by an independent verifier accredited pursuant to subsection 10.6 that expresses that the independent verifier has reviewed the entire application and evaluated the following in relation to the applicable requirements ~~at of subsections 10.3 and 10.5 of this regulation~~, and any applicable guidance issued by the Department.
    - 10.4.3.1.8.1 The adequacy and validity of information supplied by the project sponsor to demonstrate that the offset project meets the applicable eligibility requirements of subsection 10.3 and 10.5 of this regulation.
    - 10.4.3.1.8.2 The adequacy and validity of information supplied by the project sponsor to demonstrate baseline emissions pursuant to the applicable requirements ~~at of subsection 10.5 of this regulation~~.
    - 10.4.3.1.8.3 The adequacy of the monitoring and verification plan submitted pursuant to the applicable requirements ~~of subsection 10.5 of this regulation~~.
    - 10.4.3.1.8.4 Such other evaluations and statements as may be required by the Department.
  - 10.4.3.1.9 Disclosure of any voluntary or mandatory programs, other than the CO<sub>2</sub> Budget Trading Program, to which greenhouse gas emissions data related to the offset project has been, or will be reported.
  - 10.4.3.1.10 For offset projects located in a state or United States jurisdiction that is not a participating state, a demonstration that the project sponsor has complied with all requirements of the cooperating regulatory agency in the state or United States jurisdiction where the offset project is located.
- 10.4.3.2 Consistency applications shall be submitted in a format approved by the Department.

10.4.4 Consistency applications may not be submitted to the Department if a consistency application has already been submitted for the same project, or any portion of the same project, in another participating state, unless the consistency application was rejected by another participating state solely because more of the CO<sub>2</sub> equivalent emissions reduction or carbon sequestration due to the offset project is projected to occur in the State of Delaware than in any other participating state.

10.4.5 *Department action on consistency applications.*

10.4.5.1 *Completeness determination.* Within 30 days following receipt of the consistency application filed pursuant to subsection 10.4.2 of this regulation, the Department will notify the project sponsor whether the consistency application is complete. A complete consistency application is one that is in an approved form and is determined by the Department to be complete for the purpose of commencing review of the consistency application. In no event shall a completeness determination prevent the Department from requesting additional information in order to enable the Department to make a consistency determination under subsection 10.4.5.2 of this regulation.

10.4.5.2 *Consistency determination.* Within 90 days of making the completeness determination under subsection 10.4.5.1 of this regulation, the Department will issue a determination as to whether the offset project is consistent with the requirements of subsections 10.3 and 10.4 of this regulation and the requirements of the applicable offset project standard of subsection 10.5 of this regulation. For any offset project found to lack consistency with these requirements, the Department will inform the project sponsor of the offset project's deficiencies.

10.5 **CO<sub>2</sub> emissions offset project standards**

10.5.1 *Landfill methane capture and destruction.* To qualify for the award of CO<sub>2</sub> offset allowances under Section 10.0 of this regulation, offset projects that capture and destroy methane from landfills shall meet the requirements of subsection 10.5.1 of this regulation and all other applicable requirements of Section 10.0 of this regulation.

10.5.1.1 *Eligibility.* Eligible offset projects shall occur at landfills that are not subject to the New Source Performance Standards (NSPS) for municipal solid waste landfills, 40 CFR 60, Section Cc and Section WWW.

10.5.1.2 *Offset project description.* The offset project sponsor shall provide a detailed narrative of the offset project actions to be taken, including documentation that the offset project meets the eligibility requirements of subsection 10.5.1.1 of this regulation. The project narrative shall include the following information.

10.5.1.2.1 Owner and operator of the offset project;

10.5.1.2.2 Location and specifications of the landfill where the offset project will occur, including waste in place;

10.5.1.2.3 Owner and operator of the landfill where the offset project will occur; and

10.5.1.2.4 Specifications of the equipment to be installed and a technical schematic of the offset project.

10.5.1.3 *Emissions baseline determination.* The emissions baseline shall represent the potential fugitive landfill emissions of CH<sub>4</sub> (in tons of CO<sub>2</sub>e), as represented by the

CH<sub>4</sub> collected and metered for thermal destruction as part of the offset project, and calculated in accordance with this paragraph.

$$\text{Emissions (tons CO}_2\text{e)} = (V \times M \times (1 - \text{OX}) \times \text{GWP}) / 2000$$

Where:

V = Volume of CH<sub>4</sub> collected (ft<sup>3</sup>)

M = Mass of CH<sub>4</sub> per cubic foot (0.04246 lbs/ft<sup>3</sup> default value at 1 atmosphere and 20° C)

OX = Oxidation factor (0.10), representing estimated portion of collected CH<sub>4</sub> that would have eventually oxidized to CO<sub>2</sub> if not collected

GWP = CO<sub>2</sub>e global warming potential of CH<sub>4</sub> (2328)

- 10.5.1.4 *Calculating emissions reductions.* Emissions reductions shall be determined based on potential fugitive CH<sub>4</sub> emissions that would have occurred at the landfill if metered CH<sub>4</sub> collected from the landfill for thermal destruction as part of the offset project was not collected and destroyed. CO<sub>2</sub>e emissions reductions shall be calculated as follows:

$$\text{Emissions Reductions (tons CO}_2\text{e)} = (V \times M \times (1 - \text{OX}) \times C_{\text{ef}} \times \text{GWP}) / 2000$$

Where:

V = Volume of CH<sub>4</sub> collected (ft<sup>3</sup>)

M = Mass of CH<sub>4</sub> per cubic foot (0.04246 lbs/ft<sup>3</sup> default value at 1 atmosphere and 20° C)

OX = Oxidation factor (0.10), representing estimated portion of collected CH<sub>4</sub> that would have eventually oxidized to CO<sub>2</sub> if not collected

C<sub>ef</sub> = Combustion efficiency of methane control technology (0.98)

GWP = CO<sub>2</sub>e global warming potential of CH<sub>4</sub> (2328)

- 10.5.1.5 *Monitoring and verification requirements.* Offset projects shall employ a landfill gas collection system that provides continuous metering and data computation of landfill gas volumetric flow rate and CH<sub>4</sub> concentration. Annual monitoring and verification reports shall include monthly volumetric flow rate and CH<sub>4</sub> concentration data, including documentation that the CH<sub>4</sub> was actually supplied to the combustion source. Monitoring and verification is also subject to the following requirements.

- 10.5.1.5.1 The project sponsor shall submit a monitoring and verification plan as part of the consistency application that includes a quality assurance and quality control program associated with equipment used to determine landfill gas volumetric flow rate and CH<sub>4</sub> composition. The monitoring and verification plan shall also include provisions for ensuring that measuring and monitoring equipment is maintained, operated, and calibrated based on manufacturer recommendations, as well as provisions for the retention of maintenance records for audit purposes. The monitoring and verification plan shall be certified by an independent verifier accredited pursuant to subsection 10.6 of this regulation.

- 10.5.1.5.2 The project sponsor shall annually verify landfill gas CH<sub>4</sub> composition through landfill gas sampling and independent laboratory analysis using applicable U.S. Environmental Protection Agency laboratory test methods.

10.5.2 ~~Reduction in emissions of sulfur hexafluoride (SF<sub>6</sub>). To qualify for the award of CO<sub>2</sub>-offset allowances under 10.0 of this regulation, offset projects that prevent emissions of sulfur hexafluoride to the atmosphere from equipment in the electricity transmission and distribution sector, through capture and storage, recycling, or destruction, shall meet the requirements of 10.5.2 of this regulation and all other applicable requirements of 10.0 of this regulation.~~

10.5.2.1 ~~Eligibility.~~

10.5.2.1.1 ~~Eligible offset projects shall consist of incremental actions beyond those taken during the baseline year to achieve a reduction in SF<sub>6</sub> emissions relative to the baseline year. Eligible actions may include an expansion of existing actions. The identified actions to be taken shall be consistent with the guidance provided in High voltage switchgear and controlgear Part 303: Use and handling of sulfur hexafluoride (SF<sub>6</sub>) (IEC/TR 62271-303 ed1.), and Electric Power Research Institute (EPRI), "SF<sub>6</sub> Management for Substations," (1020014, 2010).~~

10.5.2.1.2 ~~Except as provided in 10.5.2.1.3 of this regulation, eligible offset projects shall have an SF<sub>6</sub> entity wide emissions rate for the baseline year that is less than the applicable emissions rate in Table 10-1. The entity wide SF<sub>6</sub> emissions rate shall be calculated as follows:~~

~~———— SF<sub>6</sub> Emissions Rate (%) = (Total SF<sub>6</sub> Emissions for Reporting Year) / (Total SF<sub>6</sub> Nameplate Capacity at End of Reporting Year)~~

~~———— Where:~~

~~———— SF<sub>6</sub> Nameplate Capacity refers to all SF<sub>6</sub>-containing equipment owned and/or operated by the entity, at full and proper SF<sub>6</sub> charge of the equipment rather than the actual charge of the equipment (which may reflect leakage).~~

**Table 10-1. SF<sub>6</sub> Emissions Rate Performance Standards**

A. Emission Regions				
Region-A	Region-B	Region-C	Region-D	Region-E
Connecticut	Alabama	Colorado	Arkansas	Alaska
Delaware	District of Columbia	Illinois	Iowa	Arizona
Maine	Florida	Indiana	Kansas	California
Massachusetts	Georgia	Michigan	Louisiana	Hawaii
New Jersey	Kentucky	Minnesota	Missouri	Idaho
New York	Maryland	Montana	Nebraska	Nevada
New Hampshire	Mississippi	North Dakota	New Mexico	Oregon
Pennsylvania	North Carolina	Ohio	Oklahoma	Washington
Rhode Island	South Carolina	South Dakota	Texas	

Vermont	Tennessee	Utah		
	Virginia	Wisconsin		
	West Virginia	Wyoming		
<b>B. Emissions Rate Performance Standards</b>				
Region		Emission Rate <sup>a</sup>		
Region A		9.68%		
Region B		5.22%		
Region C		9.68%		
Region D		5.77%		
Region E		3.65%		
U.S. (National)		9.68%		

<sup>a</sup>Based on weighted average 2004 emissions rates for U.S. EPA SF<sub>6</sub> Partnership utilities in each region. If the weighted average emissions rate in a region is higher than the national weighted average, the default performance standard is the national weighted average emissions rate.

10.5.2.1.3 — An SF<sub>6</sub> offset project shall be eligible even if the SF<sub>6</sub> entity-wide emissions rate in the baseline year exceeds the applicable rate in 10.5.2.1.2 of this regulation, provided that the project sponsor demonstrates and the Department determines that the project is being implemented at a transmission and/or distribution entity serving a predominantly urban service territory and that at least two of the following factors prevent optimal management of SF<sub>6</sub>:

10.5.2.1.3.1 — The entity is comprised of older than average installed transmission and distribution equipment in relation to the national average age of equipment.

10.5.2.1.3.2 — A majority of the entity's electricity load is served by equipment that is located underground, and poor accessibility of such underground equipment precludes management of SF<sub>6</sub> emissions through regular ongoing maintenance.

10.5.2.1.3.3 — The inability to take a substantial portion of equipment out of service, as such activity would impair system reliability.

10.5.2.1.3.4 — Required equipment purpose or design for a substantial portion of entity transmission and distribution equipment results in inherently leak-prone equipment.

~~10.5.2.2~~ ~~Offset project description.~~ The offset project sponsor shall provide a detailed narrative of the offset project actions to be taken, including documentation that the offset project meets the eligibility requirements of 10.5.2.1 of this regulation. The offset project narrative shall include the following information:

~~10.5.2.2.1~~ Description of the transmission and/or distribution entity suitable in detail to specify the service territory served by the entity.

~~10.5.2.2.2~~ Owner and operator of the transmission and/or distribution entity.

~~10.5.2.3~~ ~~Emissions baseline determination.~~ If the consistency application is filed on or after January 1, 2009, baseline SF<sub>6</sub> emissions shall be determined based on annual entity-wide reporting of SF<sub>6</sub> emissions for the calendar year immediately preceding the calendar year in which the consistency application is filed (designated the baseline year). The reporting entity shall systematically track and account for all entity-wide uses of SF<sub>6</sub> in order to determine entity-wide emissions of SF<sub>6</sub>. The scope of such tracking and accounting shall include all electric transmission and distribution assets and all SF<sub>6</sub>-containing and SF<sub>6</sub>-handling equipment owned and/or operated by the reporting entity.

~~10.5.2.3.1~~ Emissions shall be determined based on the following mass balance method:  
~~—————~~ SF<sub>6</sub> Emissions (lbs.) = (SF<sub>6</sub> Change in Inventory) + (SF<sub>6</sub> Purchases and Acquisitions) — (SF<sub>6</sub> Sales and Disbursements) — (Change in Total SF<sub>6</sub> Nameplate Capacity of Equipment)

Where:

~~—————~~ *Change in Inventory* is the difference between the quantity of SF<sub>6</sub> gas in storage at the beginning of the reporting year and the quantity in storage at the end of the reporting year. The term "quantity in storage" includes all SF<sub>6</sub> gas contained in cylinders (such as 115-pound storage cylinders), gas carts, and other storage containers. It does not refer to SF<sub>6</sub> gas held in SF<sub>6</sub>-using operating equipment. The change in inventory will be negative if the quantity of SF<sub>6</sub> gas in storage increases over the course of the year.

~~—————~~ *Purchases and Acquisitions of SF<sub>6</sub>* is the sum of all the SF<sub>6</sub> gas acquired from other parties during the reporting year, as contained in storage containers or SF<sub>6</sub>-using operating equipment.

~~—————~~ *Sales and disbursements of SF<sub>6</sub>* is the sum of all the SF<sub>6</sub> gas sold or otherwise disbursed to other parties during the reporting year, as contained in storage containers and SF<sub>6</sub>-using operating equipment.

~~—————~~ *Change in Total SF<sub>6</sub> Nameplate Capacity of Equipment* is the net change in the total volume of SF<sub>6</sub>-containing operating equipment during the reporting year. The net change in nameplate capacity is equal to new equipment nameplate capacity, minus retired equipment nameplate capacity. This quantity will be negative if the retired equipment has a total nameplate capacity larger than the total nameplate capacity of the new equipment. "Total nameplate capacity" refers to the full and proper SF<sub>6</sub> charge of the equipment rather than to the actual charge, which may reflect leakage.

~~10.5.2.3.2~~ Emissions shall be calculated as follows:

~~—————~~ Emissions (tons CO<sub>2</sub>e) = [(V<sub>iby</sub> - V<sub>ioy</sub>) + (PA<sub>psd</sub> + PA<sub>e</sub> + PA<sub>rre</sub>) - (SD<sub>op</sub> + SD<sub>rs</sub> + SD<sub>df</sub> + SD<sub>eor</sub>) - (CNP<sub>re</sub> - CNP<sub>rse</sub>)] x GWP/2000

- Where (all SF<sub>6</sub> values in lbs.):
- $V_{ib,y}$  = SF<sub>6</sub> inventory in cylinders, gas carts, and other storage containers (not SF<sub>6</sub>-containing operating equipment) at the beginning of the reporting year
  - $V_{ie,y}$  = SF<sub>6</sub> inventory in cylinders, gas carts, and other storage containers (not SF<sub>6</sub>-containing operating equipment) at the end of the reporting year
  - $PA_{psd}$  = SF<sub>6</sub> purchased from suppliers or distributors in cylinders
  - $PA_e$  = SF<sub>6</sub> provided by equipment manufacturers with or inside SF<sub>6</sub>-containing operating equipment
  - $PA_{rre}$  = SF<sub>6</sub> returned to the reporting entity after off-site recycling
  - $SD_{op}$  = Sales of SF<sub>6</sub> to other parties, including gas left in SF<sub>6</sub>-containing operating equipment that is sold
  - $SD_{rs}$  = Returns of SF<sub>6</sub> to supplier (producer or distributor)
  - $SD_{df}$  = SF<sub>6</sub> sent to destruction facilities
  - $SD_{er}$  = SF<sub>6</sub> sent off-site for recycling
  - $CNP_{ne}$  = Total SF<sub>6</sub> nameplate capacity of new SF<sub>6</sub>-containing operating equipment at proper full charge
  - $CNP_{re}$  = Total SF<sub>6</sub> nameplate capacity of retired or sold SF<sub>6</sub>-containing operating equipment at proper full charge
  - GWP = CO<sub>2</sub>e global warming potential of SF<sub>6</sub> (22,800)

10.5.2.3.3 As part of the consistency application required pursuant to 10.4.2 and 10.4.3 of this regulation and in annual monitoring and verification reports required pursuant to 10.7.2 and 10.7.3 of this regulation, the project sponsor shall provide the documentation required at 10.5.2.5.1 through 10.5.2.5.3 of this regulation to support emissions calculations.

10.5.2.4 *Calculating emissions reductions.* Emissions reductions shall represent the annual entity-wide emissions reductions of SF<sub>6</sub> for the reporting entity, relative to emissions in the baseline year. Emissions reductions shall be determined as follows, using the quantification method outlined in 10.5.2.3.2 of this regulation to determine emissions in both the baseline year and reporting year(s):

Emissions Reduction (tons CO<sub>2</sub>e) = (Total Pounds of SF<sub>6</sub> Emissions in Baseline Reporting Year) - (Total Pounds of SF<sub>6</sub> Emissions in Reporting Year) x GWP/2000  
Where:

GWP = CO<sub>2</sub>e global warming potential of SF<sub>6</sub> (22,800)

10.5.2.5 *Monitoring and verification requirements.* The annual monitoring and verification report shall include supporting material detailing the calculations and data used to determine SF<sub>6</sub> emissions reductions, and shall also provide the following documentation:

10.5.2.5.1 The project sponsor shall identify a facility(ies) managed by the entity from which all SF<sub>6</sub> gas is procured and disbursed and maintain an entity-wide log of all SF<sub>6</sub> gas procurements and disbursals. The entity-wide log shall include the weight of each cylinder transported before shipment from the facility(ies) and the weight of each cylinder after return to the facility(ies). A specific cylinder log shall also be maintained for each cylinder that is used to fill equipment with SF<sub>6</sub> or reclaim SF<sub>6</sub> from equipment. The cylinder log shall be retained with the cylinder and indicate the location and specific identifying information of the equipment being filled, or from which SF<sub>6</sub> is reclaimed, and the weight of the cylinder before and after this activity. The cylinder log shall be returned with the cylinder to the facility when the activity is complete or the cylinder is empty.

~~10.5.2.5.2~~ A current entity-wide inventory of all SF<sub>6</sub>-containing operating equipment and all other SF<sub>6</sub>-related items, including cylinders, gas carts, and other storage containers used by the entity. The inventory shall be certified by an independent verifier accredited pursuant to 10.6 of this regulation.

~~10.5.2.5.3~~ The project sponsor shall provide a monitoring and verification plan as part of the consistency application, which shall include an SF<sub>6</sub> inventory management and auditing protocol and a process for quality assurance and quality control of inventory data. The monitoring and verification plan shall be certified by an independent verifier accredited pursuant to 10.6 of this regulation.

## 10.5.2 RESERVED

**10.5.3 *Sequestration of carbon due to reforestation, improved forest management, or avoided conversion.*** To qualify for the award of CO<sub>2</sub> offset allowances under Section 10.0, offset projects that involve reforestation, improved forest management, or avoided conversion shall meet all requirements of subsection 10.5.3 and the forest offset protocol of this regulation and all other applicable requirements of Section 10.0 of this regulation.

10.5.3.1 *Eligibility.* Eligible forest offset projects shall satisfy all eligibility requirements of the forest offset protocol and ~~this Subpart~~ subsection 10.5.3.

10.5.3.2 *Offset project description.* The offset project sponsor shall provide a detailed narrative of the offset project actions to be taken, including documentation that the offset project meets the eligibility requirements of subsection 10.5.3.1 of this regulation. The offset project narrative shall include the information identified in ~~sections~~ subsections 8.1 and 9.1 of the forest offset protocol, and any other information deemed necessary by the Department.

10.5.3.3 *Carbon sequestration baseline determination.* Baseline onsite carbon stocks shall be determined as required by ~~sections~~ subsections 6.1.1, 6.1.2, 6.2.1, 6.2.2, 6.2.3, 6.3.1, and 6.3.2 of the forest offset protocol, as applicable.

10.5.3.4 *Calculating carbon sequestered.* Net GHG reductions and GHG removal enhancements shall be calculated as required by Section 6.0 of the forest offset protocol. The project's risk reversal rating shall be calculated ~~as required by Appendix D of the forest offset protocol.~~ using the forest offset protocol Determination of a Forest Project's Reversal Risk Rating assessment worksheet.

10.5.3.5 *Monitoring and verification requirements.* Monitoring and verification is subject to the following requirements.

10.5.3.5.1 *Monitoring and verification reports shall include all forest offset project data reports submitted to the Department, including any additional data required by subsection 9.2.2 of the forest offset protocol.*

10.5.3.5.2 *The consistency application shall include a monitoring and verification plan certified by an independent verifier accredited pursuant to subsection 10.6 of this regulation. The monitoring and verification plan shall consist of a forest carbon inventory program, as required by ~~section~~ subsection 8.1 of the forest offset protocol.*

- 10.5.3.5.3 Monitoring and verification reports shall be submitted not less than every six years, except that the first monitoring and verification report for reforestation projects must be submitted within twelve years of project commencement
- 10.5.3.6 Forest Offset Project Data Reports A project sponsor shall submit a forest offset Project data report to the Department for each reporting period. Each forest offset project data report must cover a single reporting period. Reporting periods must be contiguous; there must be no gaps in reporting once the first reporting period has commenced.
- 10.5.3.7 Prior to the award of CO<sub>2</sub> offset allowances pursuant to subsection 10.7 of this regulation, or to any transfer allowances pursuant to subsection 10.5.3.8, any quantity expressed in metric tons, or metric tons of CO<sub>2</sub> equivalent, shall be converted to tons using the conversion factor specified in subsection 1.2 of this regulation.
- 10.5.3.8 *Carbon sequestration permanence*. The offset project shall meet the following requirements to address reversal of sequestered carbon.
  - 10.5.3.8.1 Unintentional reversals. Requirements for unintentional reversals are as follows:
    - 10.5.3.8.1.1 The project sponsor must notify the Department of the reversal and provide an explanation for the nature of the unintentional reversal within 30 calendar days of its discovery; and
    - 10.5.3.8.1.2 The project sponsor must submit to the Department a verified estimate of current carbon stocks within the offset project boundary within one year of the discovery of the unintentional reversal.
  - 10.5.3.8.2 Intentional Reversals. Requirements for intentional reversals are as follows:
    - 10.5.3.8.2.1 If an intentional reversal occurs, the project sponsor shall, within 30 calendar days of the intentional reversal:
      - 10.5.3.8.2.1.1 Provide notice, in writing, to Department of the intentional reversal; and
      - 10.5.3.8.2.1.2 Provide a written description and explanation of the intentional reversal to the Department.
    - 10.5.3.8.2.2 Within one year of the occurrence of an intentional reversal, the project sponsor shall submit to the Department a verified estimate of current carbon stocks within the offset project boundary.
    - 10.5.3.8.2.3 If an intentional reversal occurs, and CO<sub>2</sub> offset allowances have been awarded to the offset project, to the offset project, the forest owner must transfer to the forest offset retirement account a quantity of CO<sub>2</sub> allowances corresponding to the number of metric tons of CO<sub>2</sub> equivalent reversed within six months of notification by the Department
      - 10.5.3.8.2.3.1 Notification by the Department will occur after the verified estimate of carbon stocks has been submitted to the Department, or after

one year has elapsed since the occurrence of the reversal if the project sponsor fails to submit the verified estimate of carbon stocks.

10.5.3.8.2.3.2 If the forest owner does not surrender valid CO<sub>2</sub> allowances to the Department within six months of notification by the Department, the Forest owner will be subject to enforcement action and each CO<sub>2</sub> equivalent ton of carbon sequestration reversed will constitute a separate violation of ~~this regulation~~ and applicable state law.

10.5.3.8.3 Project Termination. Requirements for project termination are as follows:

10.5.3.8.3.1 The project sponsor must surrender to the Department or its agent for retirement a quantity of CO<sub>2</sub> Allowances in the amount calculated pursuant to project termination provisions in the forest offset protocol within six months of project termination.

10.5.3.8.3.2 If the project sponsor does not surrender to the Department or its agent a quantity of CO<sub>2</sub> Allowances in the amount calculated pursuant to project termination provisions in the forest offset protocol within six months of project termination, they will be subject to enforcement action and each CO<sub>2</sub> offset allowance not surrendered will constitute a separate violation of this ~~Part~~ section and applicable state law.

10.5.3.8.4 Disposition of Forest Sequestration Projects after a Reversal. If a reversal lowers the forest offset project's actual standing live carbon stocks below its project baseline standing live carbon stocks, the forest offset project will be terminated by the Department.

10.5.3.9 Timing of forest offset projects. The Department may award CO<sub>2</sub> offset allowances under subsection 10.7 only for forest offset projects that are initially commenced on or after January 1, 2014.

10.5.3.10 Projects that Have Been Awarded Credits by a Voluntary Greenhouse Gas Reduction Program. The provisions of ~~paragraphs~~ subsections 10.3.3.4 and 10.4.3.2 shall not apply to forest projects that have been awarded credits under a voluntary greenhouse gas reduction program provided that the following conditions are satisfied. For such projects, the number of CO<sub>2</sub> Offset Allowances will be calculated pursuant to the requirements of subsection 10.5.3, without regard to quantity of credits that were awarded to the project under the voluntary program.

10.5.3.10.1 The project satisfies all other general requirements of Section 10.0, including all specific requirements of subsection 10.5.3, for all reporting periods for which the project has been awarded credits under a voluntary greenhouse gas program and also intends to be awarded CO<sub>2</sub> offset allowances pursuant to subsection 10.7.

10.5.3.10.2 At the time of submittal of the consistency application for the project, the project submits forest offset data reports and a monitoring and verification report covering all reporting periods for which the project has been awarded credits under a voluntary greenhouse gas program and also intends to be awarded CO<sub>2</sub> offset allowances pursuant to subsection 10.7. Forest offset data reports and monitoring and verification reports must meet all requirements of subsections 10.5.3.5 and 10.5.3.6.

10.5.3.10.3 The consistency application includes information sufficient to allow the Department to make the following determinations, and the voluntary greenhouse gas program has published information on its website to allow the Department to verify the information included in the consistency application.

10.5.3.10.3.1 The offset project has met all legal and contractual requirements to allow it to terminate its relationship with the voluntary greenhouse gas program, and such termination has been completed.

10.5.3.10.3.2 The project sponsor or voluntary greenhouse gas program has canceled or retired all credits that were awarded for carbon sequestration that occurred during the time periods for which the project intends to be awarded CO<sub>2</sub> offset allowances pursuant to subsection 10.7, and such credits were canceled or required for the sole purpose of allowing the project to be awarded CO<sub>2</sub> offset allowances pursuant to subsection 10.7.

~~10.5.4 Reduction or avoidance of CO<sub>2</sub> emissions from natural gas, oil, or propane end-use combustion due to end-use energy efficiency. To qualify for the award of CO<sub>2</sub> offset allowances under 10.0 of this regulation, offset projects that reduce CO<sub>2</sub> emissions by reducing on-site combustion of natural gas, oil, or propane for end-use in an existing or new commercial or residential building by improving the energy efficiency of fuel usage and/or the energy-efficient delivery of energy services shall meet the requirements of 10.5.4 of this regulation and all other applicable requirements of 10.0 of this regulation. Eligible new buildings are limited to new buildings that are designed to replace an existing building on the offset project site, or new buildings designed to be zero net energy buildings.~~

~~10.5.4.1 Eligibility.~~

~~10.5.4.1.1 Eligible offset projects shall reduce CO<sub>2</sub> emissions through one or more of the following energy conservation measures (ECMs):~~

~~10.5.4.1.1.1 Improvements in the energy efficiency of combustion equipment that provide space heating and hot water, including a reduction in fossil fuel consumption through the use of solar and geothermal energy;~~

~~10.5.4.1.1.2 Improvements in the efficiency of heating distribution systems, including proper sizing and commissioning of heating systems;~~

~~10.5.4.1.1.3 Installation or improvement of energy management systems;~~

~~10.5.4.1.1.4 Improvement in the efficiency of hot water distribution systems and reduction in demand for hot water;~~

~~10.5.4.1.1.5 Measures that improve the thermal performance of the building envelope and/or reduce building envelope air leakage;~~

~~10.5.4.1.1.6 Measures that improve the passive solar performance of buildings and utilization of active heating systems using renewable energy; and~~

~~10.5.4.1.1.7 — Fuel switching to a less carbon-intensive fuel for use in combustion systems, including the use of liquid or gaseous eligible biomass, provided that conversions to electricity are not eligible.~~

~~10.5.4.1.2 — Performance standards:~~

~~10.5.4.1.2.1 — All end-use energy efficiency offset projects. All offset projects under this regulation shall meet the applicable performance criteria set forth in this regulation.~~

~~10.5.4.1.2.1.1 — Installation best practice. Any combustion equipment and related air-handling equipment (HVAC systems) installed as part of an offset project shall be sized and installed in accordance with the applicable requirements and specifications outlined in this regulation.~~

~~10.5.4.1.2.1.1.1 — Commercial HVAC systems shall meet the applicable sizing and installation requirements of ANSI/ASHRAE/IESNA Standard 90.1 (SI Edition) 2010: Energy Standard for Buildings Except Low-Rise Residential Buildings; ANSI/ASHRAE Standard 62-2010: Ventilation for Acceptable Indoor Air Quality.~~

~~10.5.4.1.2.1.1.2 — Residential HVAC systems shall meet the applicable sizing specifications of Air Conditioner Contractors of America (ACCA) Manual J: Residential Load Calculation (Eight Edition-Full), and the applicable installation specifications ANSI/ACCA 5-QI-2007 "HVAC Quality Installation Specification".~~

~~10.5.4.1.2.1.2 — Whole-building energy performance. Eligible new buildings or whole-building retrofits that are part of an offset project shall meet the requirements of this regulation.~~

~~10.5.4.1.2.1.2.1 — Commercial buildings shall exceed the energy performance requirements of ANSI/ASHRAE/IESNA Standard 90.1 (SI Edition) 2010: Energy Standard for Buildings Except Low-Rise Residential Buildings by 30%, with the exception of multi-family residential buildings classified as commercial by ANSI/ASHRAE/IESNA Standard 90.1 (SI Edition) 2010, which shall exceed these energy performance requirements by 20%.~~

~~10.5.4.1.2.1.2.2 — Residential buildings shall exceed the energy performance requirements of the 2012 International Energy Conservation Code Supplement by 30%.~~

~~10.5.4.1.2.2 — Maximum market penetration rate for offset projects commenced on or after January 1, 2009. For offset projects initiated on or after January 1, 2009, the project sponsor shall demonstrate, to the satisfaction of the Department, that the energy conservation measures implemented as part of the offset project have a market penetration rate of less than 5%.~~

~~10.5.4.2 — Offset project description. The offset project sponsor shall provide a detailed narrative of the offset project actions to be taken, including documentation that the~~

offset project meets the eligibility requirements of 10.5.4.1 of this regulation. The offset project narrative shall include the following information:

10.5.4.2.1 Location and specifications of the building(s) where the offset project actions will occur;

10.5.4.2.2 Owner and operator of the building(s);

10.5.4.2.3 The parties implementing the offset project, including lead contractor(s), subcontractors, and consulting firms;

10.5.4.2.4 Specifications of equipment and materials to be installed as part of the offset project; and

10.5.4.2.5 Building plans and offset project technical schematics, as applicable.

10.5.4.3 *Emissions baseline determination.* The emissions baseline shall be determined in accordance with the requirements of this paragraph, based on energy usage (MMBtu) by fuel type for each energy conservation measure, derived using historic fuel use data from the most recent calendar year for which data is available, and multiplied by an emissions factor and oxidation factor for each respective fuel in Table 10-2 below.

**Table 10-2. Emissions and Oxidation Factors**

Fuel	Emissions Factor (lbs. CO <sub>2</sub> /MMBtu)	Oxidation Factor
Natural Gas	116.98	0.995
Propane	139.04	0.995
Distillate Fuel Oil	161.27	0.99
Kerosene	159.41	0.99

10.5.4.3.1 *Isolation of applicable energy conservation measure baseline.* The baseline energy usage of the application to be targeted by the energy conservation measure shall be isolated in a manner consistent with the guidance at 10.5.4.5 of this regulation.

10.5.4.3.2 Annual baseline energy usage shall be determined as follows:

$$\text{Energy Usage (MMBtu)} = \text{BEU}_{\text{AECM}} \times A$$

Where:

$\text{BEU}_{\text{AECM}}$  = Annual pre-installation baseline energy use by fuel type (MMBtu) attributable to the application(s) to be targeted by the energy conservation measure(s). If applicable building codes or equipment standards require that equipment or materials installed as part of the offset project meet certain minimum energy performance requirements, baseline energy usage for the application shall assume that equipment or materials are installed that meet such minimum requirements. For offset projects

that replace existing combustion equipment, the assumed minimum energy performance required by applicable building codes or equipment standards shall be that which applies to new equipment that uses the same fuel type as the equipment being replaced. Baseline energy usage shall be determined in accordance with the applicable requirements at 10.5.4.5 of this regulation.

\_\_\_\_\_ A = Adjustments to account for differing conditions during the two time periods (pre-installation and post-installation), such as weather, building occupancy, and changes in building use or function. Adjustments shall be determined in accordance with the applicable requirements at 10.5.4.5 of this regulation.

10.5.4.3.3 Annual baseline emissions shall be determined as follows:

$$\text{Emissions (lbs. CO}_2\text{)} = \sum_{j=1}^n \text{BEU}_i \times \text{EF}_i \times \text{OF}_i$$

\_\_\_\_\_ Where:

\_\_\_\_\_  $\text{BEU}_i$  = Annual baseline energy usage for fuel type  $i$  (MMBtu) demonstrated pursuant to the requirements at 10.5.4.5.1 through 10.5.4.5.4 of this regulation.

\_\_\_\_\_  $\text{EF}_i$  = Emissions factor (lbs. CO<sub>2</sub>/MMBtu) for fuel type  $i$  listed at 10.5.4.3 of this regulation, Table 10-2 of this regulation.

\_\_\_\_\_  $\text{OF}_i$  = Oxidation factor for fuel type  $i$  listed at 10.5.4.3 of this regulation, Table 10-2 of this regulation.

10.5.4.4 *Calculating emissions reductions.* Emissions reductions shall be determined based upon annual energy savings by fuel type (MMBtu) for each energy conservation measure, multiplied by the emissions factor and oxidation factor for the respective fuel type at 10.5.4.3 of this regulation, Table 3 of this regulation.

10.5.4.4.1 Annual energy savings shall be determined as follows:

$$\text{Energy Savings (MMBtu)} = (\text{BEU}_{\text{AECM}} \times \text{A}) - (\text{PIEU}_{\text{ECM}} \times \text{A})$$

\_\_\_\_\_ Where:

\_\_\_\_\_  $\text{BEU}_{\text{AECM}}$  = Annual pre-installation baseline energy use by fuel type (MMBtu) calculated pursuant to 10.5.4.5.1 through 10.5.4.5.4 of this regulation.

\_\_\_\_\_  $\text{PIEU}_{\text{ECM}}$  = Annual post-installation energy use by fuel type (MMBtu) attributable to the energy conservation measure. Post-installation energy usage shall be determined in accordance with the applicable requirements at 10.5.4.5.1 through 10.5.4.5.4 of this regulation.

\_\_\_\_\_ A = Adjustments to account for any differing conditions during the two time periods (pre-installation and post-installation), such as weather, building occupancy, and changes in building use or function. Adjustments shall be determined in accordance with the applicable requirements at 10.5.4.5 of this regulation.

10.5.4.4.2 Annual emissions reductions shall be determined as follows:

$$\text{Emissions Reduction (lbs. CO}_2\text{)} = \sum_{i=1}^n \text{ES}_i \times \text{EF}_i \times \text{OF}_i$$

\_\_\_\_\_ Where:

- $ES_i$  = Energy savings for fuel type  $i$  (MMBtu) demonstrated pursuant to the requirements at 10.5.4.5 of this regulation.
- $EF_i$  = Emissions factor (lbs.  $CO_2$ /MMBtu) for fuel type  $i$  listed at 10.5.4.3 of this regulation, Table 10-2 of this regulation.
- $OF_i$  = Oxidation factor for fuel type  $i$  listed at 10.5.4.3 of this regulation, Table 10-2 of this regulation.

10.5.4.5 ~~Monitoring and verification requirements.~~ As part of the consistency application, the project sponsor shall provide a monitoring and verification plan certified by an independent verifier accredited pursuant to 10.6 of this regulation. Annual monitoring and verification reports shall be certified by an independent verifier accredited pursuant to 10.6 of this regulation. Independent verifiers must conduct a site audit when reviewing the first monitoring and verification report submitted by the project sponsor, except for offset projects that save less than 1,500 MMBtu per year. For offset projects that save less than 1,500 MMBtu per year, the project sponsor must provide the independent verifier with equipment specifications and copies of equipment invoices and other relevant offset project-related invoices. All offset project documentation, including the consistency application and monitoring and verification reports, shall be signed by a Professional Engineer, identified by license number. Monitoring and verification shall also meet the following requirements:

10.5.4.5.1 ~~General energy measurement and verification requirements.~~ Monitoring and verification of energy usage shall be demonstrated through a documented process consistent with the following protocols and procedures, as applicable.

10.5.4.5.1.1 ~~For existing commercial buildings, determination of baseline energy usage shall be consistent with the International Performance Measurement & Verification Protocol, Volume I: Concepts and Options for Determining Energy and Water Savings (IPMVP), "Option B. Retrofit Isolation" and "Option D. Calibrated Simulation." If a building project involves only energy conservation measures implemented as part of a  $CO_2$  emissions offset project, a process consistent with IPMVP "Option C. Whole Building" may be used, as applicable. Application of the IPMVP general guidance shall be consistent with the applicable detailed specifications in ASHRAE Guideline 14-2002, Measurement of Energy and Demand Savings.~~

10.5.4.5.1.2 ~~For new commercial buildings, determination of baseline energy usage shall be consistent with the International Performance Measurement & Verification Protocol, Volume III: Concepts and Options for Determining Energy Savings in New Construction (IPMVP), "Option D: Whole Building Calibrated Simulation," EVO 30000-1: 2006, Efficiency Valuation Organization." Application of the IPMVP general guidance shall be consistent with the applicable detailed specifications in ASHRAE Guideline 14-2002, Measurement of Energy and Demand Savings.~~

10.5.4.5.1.3 ~~For existing and new residential buildings, determination of baseline energy usage shall be consistent with the requirements of the RESNET National Energy Rating Technical Standards and National Home Energy Rating Technical Guidelines, 2013 (Chapter 3 and Appendix A of 2013 Mortgage Industry National Home Energy Rating System Standards).~~

10.5.4.5.2 ~~Isolation of applicable energy conservation measure.~~ In calculating both baseline energy usage and energy savings, the applicant shall isolate the impact of each eligible energy conservation measure (ECM), either through

direct metering or energy simulation modeling. For offset projects with multiple ECMs, and where individual ECMs can affect the performance of others, the sum of energy savings due to individual ECMs shall be adjusted to account for the interaction of ECMs. For commercial buildings, this process shall be consistent with the requirements of ASHRAE Guideline 14-2002, Measurement of Energy and Demand Savings, and ANSI/ASHRAE/IESNA Standard 90.1 (SI Edition) 2010: Energy Standard for Buildings Except Low-Rise Residential Buildings. For residential buildings, this process shall be consistent with the requirements of RESNET National Energy Rating Technical Standards and National Home Energy Rating Technical Guidelines, 2013 (Chapter 3 and Appendix A of 2006 Mortgage Industry National Home Energy Rating System Standards).

10.5.4.5.2.1 Reductions in energy usage due to the energy conservation measure shall be based upon actual energy usage data. Energy simulation modeling shall only be used to determine the relative percentage contribution to total fuel usage (for each respective fuel type) of the application targeted by the energy conservation measure.

10.5.4.5.3 *Calculation of energy savings.* Annual energy savings are to be determined based on the following:

$$\text{Energy Savings (MMBtu)} = (\text{BEU}_{\text{AECM}} \times A) - (\text{PIEU}_{\text{ECM}} \times A)$$

Where:

—  $\text{BEU}_{\text{AECM}}$  = Annual pre-installation baseline energy use by fuel type (MMBtu) attributable to the application(s) to be targeted by the energy conservation measure(s), based upon annual fuel usage data for the most recent calendar year for which data is available. For new buildings, baseline energy use for a reference building equivalent in basic configuration, orientation, and location to the building in which the eligible energy conservation measure(s) is implemented shall be determined according to ASHRAE Guideline 14-2002, Measurement of Energy and Demand Savings and ANSI/ASHRAE/IESNA Standard 90.1 (SI Edition) 2010, Section 11 and Appendix G. Where energy simulation modeling is used to evaluate an existing building, modeling shall be conducted in accordance with ASHRAE Guideline 14-2002, Measurement of Energy and Demand Savings, and ANSI/ASHRAE/IESNA Standard 90.1 (SI Edition) 2010, Section 11 and Appendix G. For existing and new residential buildings, energy simulation modeling shall be conducted in accordance with the requirements of RESNET National Energy Rating Technical Standards and National Home Energy Rating Technical Guidelines, 2006 (Chapter 3 and Appendix A of 2013 Mortgage Industry National Home Energy Rating System Standards).

—  $\text{PIEU}_{\text{ECM}}$  = Annual post-installation energy use by fuel type (MMBtu) attributable to the energy conservation measure, to be verified based on annual energy usage after installation of the energy conservation measure(s), consistent with the requirements of ASHRAE Guideline 14-2002, Measurement of Energy and Demand Savings. Where energy simulation modeling is used to evaluate a new or existing building, modeling shall be conducted in accordance with ASHRAE Guideline 14-2002, Measurement of Energy and Demand Savings, and ANSI/ASHRAE/IESNA Standard 90.1 (SI Edition) 2010, Section 11 and Appendix G. Where energy simulation modeling is used to evaluate an exist, Section 11 and Appendix G. For existing and new residential buildings, energy simulation modeling shall be consistent with the requirements of RESNET National Energy Rating Technical Standards and National Home Energy Rating Technical Guidelines, 2013 (Chapter 3 and

Appendix A of 2006 Mortgage Industry National Home Energy Rating System Standards).

~~A = Adjustments to account for any differing conditions during the two time periods (pre-installation and post-installation), such as weather (weather normalized energy usage based on heating and cooling degree days), building occupancy, and changes in building use or function. For commercial buildings, adjustments shall be consistent with the specifications of ASHRAE Guideline 14-2002, Measurement of Energy and Demand Savings, and ANSI/ASHRAE/IESNA Standard 90.1 (SI Edition) 2010, Section 11 and Appendix G. For residential buildings, adjustments shall be consistent with the specifications of RESNET National Energy Rating Technical Standards and National Home Energy Rating Technical Guidelines, 2013 (Chapter 3 and Appendix A of 2006 Mortgage Industry National Home Energy Rating System Standards).~~

~~10.5.4.5.4 *Provision for sampling of multiple like offset projects in residential buildings.* Offset projects that implement similar measures in multiple residential buildings may employ representative sampling of buildings to determine aggregate baseline energy usage and energy savings. Sampling protocols shall employ sound statistical methods such that there is 95% confidence that the reported value is within 10% of the true mean. Any sampling plan shall be certified by an independent verifier, accredited pursuant to 10.6 of this regulation.~~

#### 10.5.4 RESERVED

**10.5.5 *Avoided methane emissions from agricultural manure management operations.*** To qualify for the award of CO<sub>2</sub> offset allowances under Section 10.0 of this regulation, offset projects that capture and destroy methane from animal manure and organic food waste using anaerobic digesters shall meet the requirements of subsection 10.5.5 of this regulation and all other applicable requirements of Section 10.0 of this regulation.

##### 10.5.5.1 *Eligibility.*

10.5.5.1.1 Eligible offset projects shall consist of the destruction of that portion of methane generated by an anaerobic digester that would have been generated in the absence of the offset project through the uncontrolled anaerobic storage of manure or organic food waste.

10.5.5.1.2 Eligible offset projects shall employ only manure-based anaerobic digester systems using livestock manure as the majority of digester feedstock, defined as more than 50% of the mass input into the digester on an annual basis. Organic food waste used by an anaerobic digester shall only be that which would have been stored in anaerobic conditions in the absence of the offset project.

10.5.5.1.3 The provisions of subsections 10.3.4.2 and 10.3.4.3 of this regulation shall not apply to agricultural manure management offset projects provided either of the following requirements are met.

10.5.5.1.3.1 The offset project is located in a state that has a market penetration rate (MP (%)) for anaerobic digester projects of 5% or less. The market penetration determination shall utilize the most recent market data available at

the time of submission of the consistency application pursuant to subsection 10.4 of this regulation and shall be determined as follows:

$$MP (\%) = MG_{AD} / MG_{STATE}$$

Where:

$MG_{AD}$  = Average annual manure generation for the number of dairy cows and swine serving all anaerobic digester projects in the applicable state at the time of submission of a consistency application pursuant to subsection 10.4 of this regulation.

$MG_{STATE}$  = average annual manure production of all dairy cows and swine in the state at the time of submission of a consistency application pursuant to subsection 10.4 of this regulation.

10.5.5.1.3.2 The offset project is located at a farm with 4,000 or less head of dairy cows, or a farm with equivalent animal units, assuming an average live weight for dairy cows (lbs./cow) of 1,400 lbs., or, if the project is a regional-type digester, total annual manure input to the digester is designed to be less than the average annual manure produced by a farm with 4,000 or less head of dairy cows, or a farm with equivalent animal units, assuming an average live weight for dairy cows (lbs./cow) of 1,400 lbs.

10.5.5.2 *Offset project description.* The offset project sponsor shall provide a detailed narrative of the offset project actions to be taken, including documentation that the offset project meets the eligibility requirements of subsection 10.5.5.1 of this regulation. The offset project narrative shall include the following information.

10.5.5.2.1 Owner and operator of the offset project;

10.5.5.2.2 Location and specifications of the facility where the offset project will occur;

10.5.5.2.3 Owner and operator of the facility where the offset project will occur;

10.5.5.2.4 Specifications of the equipment to be installed and a technical schematic of the offset project; and

10.5.5.2.5 Location and specifications of the facilities from which anaerobic digester influent will be received, if different from the facility where the offset project will occur.

10.5.5.3 *Emissions baseline determination.* The emissions baseline shall represent the potential emissions of the CH<sub>4</sub> that would have been produced in a baseline scenario under uncontrolled anaerobic storage conditions and released directly to the atmosphere in the absence of the offset project.

10.5.5.3.1 Baseline CH<sub>4</sub> emissions shall be calculated as follows:

$$CO_{2e} \text{ (tons)} \underline{E}_b = (V_m \times M) / 2000 \times GWP$$

Where:

$CO_{2e} \underline{E}_b$  = Potential CO<sub>2e</sub> emissions due to calculated CH<sub>4</sub> production under site-specific anaerobic storage and weather conditions(tons);

$V_m$  = Volume of CH<sub>4</sub> produced each month from ~~degradation~~ decomposition of volatile solids in a baseline uncontrolled anaerobic storage scenario under site-specific storage and weather conditions for the facility at which the manure or organic food waste is generated (ft<sup>3</sup>)

M = Mass of CH<sub>4</sub> per cubic foot (0.04246 lb/ft<sup>3</sup> default value at one atmosphere and 20°C)

GWP = Global warming potential of CH<sub>4</sub> (2528)

- 10.5.5.3.2 The estimated amount of volatile solids ~~degraded~~ decomposed ( $VS_{dec}$ ) each month under the uncontrolled anaerobic storage baseline scenario (kg) shall be calculated as follows:

$$VS_{deg} \quad VS_{dec} = VS_{avail} \times f$$

Where:

VS = volatile solids as determined from the equation:

$$VS = M_m \times TS_{\%} \times VS_{\%}$$

where:

$M_m$  = mass of manure or organic food waste produced per month (kg)

$TS_{\%}$  = concentration (percent) of total solids in manure or organic food waste as determined through I-3750, "Solids, residue on evaporation at 105 degrees C, total, gravimetric," Methods for the Determination of Inorganic Substances in Water and Fluvial Sediments, Techniques of Water-Resources Investigations of the United States Geological Survey, Book 5, Chapter A1. Edited by Marvin J. Fishman and Linda C. Friedman.  
 $VS_{\%}$  = concentration (percent) of volatile solids in total solids as determined through EPA 160.4 testing method (U.S.EPA Method Number 160.4, Methods for the Chemical Analysis of Water and Wastes (MCAWW) (EPA/600/4-79/020))

$VS_{avail}$  = volatile solids available for ~~degradation~~ decomposition in manure or organic food waste storage each month as determined from the equation:

$$VS_{avail} = VS_p + \frac{1}{2} VS_{in} - VS_{out}$$

Where:

$VS_p$  = volatile solids present in manure or organic food waste storage at beginning of month (left over from previous month) (kg)

$VS_{in}$  = volatile solids added to manure or organic food waste storage during the course of the month (kg). The factor of  $\frac{1}{2}$  is multiplied by this number to represent the average mass of volatile solids available for ~~degradation~~ decomposition for the entire duration of the month.

VS<sub>out</sub> = volatile solids removed from the manure or organic food waste storage for land application or export (assumed value based on standard farm practice)

f = van't Hoff-Arrhenius factor for the specific month as determined using the equation below. Using a base temperature of 30° C, the equation is as follows:

$$f = \exp\left\{\frac{E(T_2 - T_1)}{(GC \times T_1 \times T_2)}\right\}$$

Where:

f = conversion efficiency of VS to CH<sub>4</sub> per month

E = activation energy constant (15,175 cal/mol)

T<sub>2</sub> = average monthly ambient temperature for facility where manure or organic food waste is generated (converted from °Celsius to °Kelvin) as determined from the nearest National Weather Service certified weather station (if reported temperature °C > 5° C; if reported temperature °C < 5° C, then F = 0.104)

T<sub>1</sub> = 303.15 (30° C converted to °K)

GC = ideal gas constant (1.987 cal/K mol)

10.5.5.3.3 The volume of CH<sub>4</sub> produced (ft<sup>3</sup>) from ~~degradation~~ decomposition of volatile solids shall be calculated as follows:

$$V_m = (VS_{deg} - VS_{dec} \times B_o) \times 35.3147$$

Where:

V<sub>m</sub> = volume of CH<sub>4</sub> (ft<sup>3</sup>)

~~VS<sub>deg</sub> - VS<sub>dec</sub>~~ = volatile solids ~~degraded~~ decomposed (kg)

B<sub>o</sub> = manure or organic food waste type-specific maximum methane generation constant (m<sup>3</sup> CH<sub>4</sub>/kg VS ~~degraded~~ decomposed). For dairy cow manure, B<sub>o</sub> = 0.24 m<sup>3</sup> CH<sub>4</sub>/kg VS ~~degraded~~ decomposed. The methane generation constant for other types of manure shall be those cited at U.S. EPA, Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2010, Annex 3.10, Table A-462180 (U.S. Environmental Protection Agency, ~~April 2012~~ February 2017), unless the project sponsor proposes an alternate methane generation constant and that alternate is approved by the Department. If the project sponsor proposes to use a methane generation constant other than the ones found in the above-cited reference, the project sponsor must provide justification and documentation to the Department.

10.5.5.4

*Calculating emissions reductions.* Emissions reductions shall be determined ~~based on the potential emissions (in tons of CO<sub>2</sub>e) of the CH<sub>4</sub> that would have been produced in the absence of the offset project under a baseline scenario that rep-~~

resents uncontrolled anaerobic storage conditions, as calculated pursuant to 10.5.5.3.1 through 10.5.5.3.3 of this regulation, and released directly to the atmosphere calculated as follows:

$$ER_t = E_b - E_p$$

where:

ER<sub>t</sub> = CO<sub>2</sub>e emissions reductions due to project activities (tons);

E<sub>b</sub> = Potential CO<sub>2</sub>e emissions due to calculated CH<sub>4</sub> production under site-specific anaerobic storage and weather conditions (tons);

E<sub>p</sub> = CO<sub>2</sub>e emissions due to project activities additional to baseline (tons), including, but not limited to, manure transportation, flaring, venting, and effluent management.

Emissions reductions may not exceed the potential emissions of the anaerobic digester, as represented by the annual volume of CH<sub>4</sub> produced by the anaerobic digester, as monitored pursuant to subsection 10.5.5.5 of this regulation. If the project is a regional-type digester, CO<sub>2</sub> emissions due to transportation of manure and organic food waste from the site where the manure and organic food waste was generated to the anaerobic digester shall be subtracted from the emissions reduction calculated pursuant to subsections 10.5.5.3.1 through 10.5.5.3.3 of this regulation. Transport CO<sub>2</sub> emissions shall be determined through one of the following methods.

- 10.5.5.4.1 Documentation of transport fuel use for all shipments of manure and organic food waste from off-site to the anaerobic digester during each reporting year and a log of transport miles for each shipment. Off-site is defined as a location that is not contiguous with the property where the anaerobic digester is located. CO<sub>2</sub> emissions shall be determined through the application of an emissions factor for the fuel type used. If this option is chosen, the following emissions factors shall be applied as appropriate.
  - 10.5.5.4.1.1 Diesel fuel: 22.912 lbs. CO<sub>2</sub>/gallon.
  - 10.5.5.4.1.2 Gasoline: 19.878 lbs. CO<sub>2</sub>/gallon.
  - 10.5.5.4.1.3 Other fuel: submitted emissions factor approved by the Department.
- 10.5.5.4.2 Documentation of total tons of manure and organic food waste transported from off-site for input into the anaerobic digester during each reporting year, as monitored pursuant to subsections 10.5.5.5.1 of this regulation, and a log of transport miles and fuel type used for each shipment. CO<sub>2</sub> emissions shall be determined through the application of a ton-mile transport emission factor for the fuel type used. If this option is chosen, the following emissions factors shall be applied as appropriate for each ton of manure delivered, and multiplied by the number of miles transported.
  - 10.5.5.4.2.1 Diesel fuel: 0.131 lbs. CO<sub>2</sub> per ton-mile.

10.5.5.4.2.2 Gasoline: 0.133 lbs. CO<sub>2</sub> per ton-mile.

10.5.5.4.2.3 Other fuel: submitted emissions factor approved by the Department.

10.5.5.5 *Monitoring and verification requirements.* Offset projects shall employ a system that provides metering of biogas volumetric flow rate and determination of CH<sub>4</sub> concentration. Annual monitoring and verification reports shall include monthly biogas volumetric flow rate and CH<sub>4</sub> concentration determination. Monitoring and verification shall also meet the following requirements.

10.5.5.5.1 If the offset project is a regional-type digester, manure and organic food waste from each distinct source supplying to the anaerobic digester shall be sampled monthly to determine the amount of volatile solids present. Any emissions reduction will be calculated according to mass of manure and organic food waste (kg) being digested and percentage of volatile solids present before digestion, consistent with the requirements at subsections 10.5.5.3 and 10.5.5.5.3 of this regulation, and apportioned accordingly among sources. The project sponsor shall provide supporting material and receipts tracking the monthly receipt of manure and organic food waste (kg) used to supply the anaerobic digester from each supplier.

10.5.5.5.2 If the offset project includes the digestion of organic food waste eligible pursuant to subsection 10.5.5.1.2 of this regulation, organic food waste shall be sampled monthly to determine the amount of volatile solids present before digestion, consistent with the requirements at subsection 10.5.5.3 and 10.5.5.5.3 of this regulation, and apportioned accordingly.

10.5.5.5.3 The project sponsor shall submit a monitoring and verification plan as part of the consistency application that includes a quality assurance and quality control program associated with equipment used to determine biogas volumetric flow rate and CH<sub>4</sub> composition. The monitoring and verification plan shall be specified in accordance with the applicable monitoring requirements listed in Table 40-348. The monitoring and verification plan shall also include provisions for ensuring that measuring and monitoring equipment is maintained, operated, and calibrated based on manufacturer's recommendations, as well as provisions for the retention of maintenance records for audit purposes. The monitoring and verification plan shall be certified by an independent verifier accredited pursuant to subsection 10.6 of this regulation.

~~10.5.5.5.4 The project sponsor shall verify biogas CH<sub>4</sub> composition quarterly through gas sampling and third party laboratory analysis using applicable U.S. EPA test methods.~~

**Table 10-38. Input Monitoring Requirements**

<b>Input Parameter</b>	<b>Measurement Unit</b>	<b>Frequency of Sampling</b>	<b>Sampling Method(s)</b>
Influent flow (mass) into the digester	Kilograms (kg) per month (wet weight) <u>mass</u>	Monthly total into the digester	a) Recorded <u>weight mass</u> b) Digester influent pump flow c) Livestock population and application of American Society of Agricultural and Biological Engineers (ASABE) standard (ASAE D384.2, March 2005)
Influent total solids concentration (TS)	Percent (of sample)	Monthly, depending upon recorded variations	U.S. EPA Method Number 160.3, Methods for the Chemical Analysis of Water and Wastes (MCAWW) (EPA/600/4-79/020)
Influent volatile solids (VS) concentration	Percent (of TS)	Monthly, depending upon recorded variations	USEPA Method Number 160.4, Methods for the Chemical Analysis of Water and Wastes (MCAWW) (EPA/600/4-79/020)
Average monthly ambient temperature	Temperature °C	Monthly (based on farm averages)	Closest National Weather Service-certified weather station
<u>Volume of biogas produced by digester</u>	<u>Standard cubic feet (scf)</u>	<u>Continuous, totaled monthly</u>	<u>Flow meter</u>
<u>Methane composition of biogas produced by digester</u>	<u>Percent (of sample)</u>	<u>Quarterly</u>	<u>Bag sampling and third party laboratory analysis using applicable U.S. EPA test methods</u>

10.6 Accreditation of independent verifiers

10.6.1 *Standards for accreditation.* Independent verifiers may be accredited by the Department to provide verification services as required of project sponsors under this Regulation, provided that independent verifiers meet all of the requirements of this regulation.

- 10.6.1.1 *Verifier minimum requirements.* Each accredited independent verifier shall demonstrate knowledge of the following topics:
- 10.6.1.1.1 Utilizing engineering principles;
  - 10.6.1.1.2 Quantifying greenhouse gas emissions;
  - 10.6.1.1.3 Developing and evaluating air emissions inventories;
  - 10.6.1.1.4 Auditing and accounting principles;
  - 10.6.1.1.5 Knowledge of information management systems;
  - 10.6.1.1.6 Knowledge of the requirements of ~~this regulation~~ and other applicable requirements of ~~this regulation~~; and
  - 10.6.1.1.7 Such other qualifications as may be required by the Department to provide competent verification services as required for individual offset categories specified at subsection 10.5 of this regulation.
- 10.6.1.2 *Organizational qualifications.* Accredited independent verifiers shall demonstrate that they meet the following requirements:
- 10.6.1.2.1 Verifiers shall have no direct or indirect financial relationship, beyond a contract for provision of verification services, with any offset project developer or project sponsor;
  - 10.6.1.2.2 verifiers shall employ staff with professional licenses, knowledge, and experience appropriate to the specific category(ies) of offset projects at subsection 10.5 of this regulation that they seek to verify;
  - 10.6.1.2.3 Verifiers shall hold a minimum of one million U.S. dollars of professional liability insurance. If the insurance is in the name of a related entity, the verifier shall disclose the financial relationship between the verifier and the related entity, and provide documentation supporting the description of the relationship; and
  - 10.6.1.2.4 verifiers shall demonstrate that they have implemented an adequate management protocol to identify potential conflicts of interest with regard to an offset project, offset project developer, or project sponsor, or any other party with a direct or indirect financial interest in an offset project that is seeking or has been granted approval of a consistency application pursuant to subsection 10.4.5 of this regulation, and remedy any such conflicts of interest prior to providing verification services.
- 10.6.1.3 *Pre-qualification of verifiers.* The Department may require prospective verifiers to successfully complete a training course, workshop, or test developed by the Department or its agent, prior to submitting an application for accreditation.
- 10.6.2 *Application for accreditation.* An application for accreditation shall not contain any proprietary information, and shall include the following:

- 10.6.2.1 The applicant's name, address, e-mail address, telephone number, and facsimile transmission number;
  - 10.6.2.1.1 Documentation that the applicant has at least two years of experience in each of the knowledge areas specified at subsections 10.6.1.1.1 through 10.6.1.1.5 ~~of this regulation~~, and as may be required pursuant to 10.6.1.1.7 ~~of this regulation~~;
  - 10.6.2.1.2 Documentation that the applicant has successfully completed the requirements at subsection 10.6.1.3 ~~of this regulation~~, as applicable;
  - 10.6.2.1.3 A sample of at least one work product that provides supporting evidence that the applicant meets the requirements at subsections 10.6.1.1 and 10.6.1.2 ~~of this regulation~~. The work product shall have been produced, in whole or part, by the applicant and shall consist of a final report or other material provided to a client under contract in previous work. For a work product that was jointly produced by the applicant and another entity, the role of the applicant in the work product shall be clearly explained;
  - 10.6.2.1.4 Documentation that the applicant holds professional liability insurance as required pursuant to subsection 10.6.1.2.3 ~~of this regulation~~.
  - 10.6.2.1.5 Documentation that the applicant has implemented an adequate management protocol to address and remedy any conflict of interest issues that may arise, as required pursuant to subsection 10.6.1.2.4 ~~of this regulation~~.
- 10.6.3 *Department action on applications for accreditation.* The Department shall approve or deny a complete application for accreditation within 45 days after submission. Upon approval of an application for accreditation, the independent verifier shall be accredited for a period of three years from the date of application approval.
- 10.6.4 *Reciprocity.* Independent verifiers accredited in other participating states may be deemed to be accredited in the State of Delaware, at the discretion of the Department.
- 10.6.5 *Conduct of accredited verifiers.*
  - 10.6.5.1 Prior to engaging in verification services for an offset project sponsor, the accredited verifier shall disclose all relevant information to the department to allow for an evaluation of potential conflict of interest with respect to an offset project, offset project developer, or project sponsor. The accredited verifier shall disclose information concerning its ownership, past and current clients, related entities, as well as any other facts or circumstances that have the potential to create a conflict of interest.
  - 10.6.5.2 Accredited verifiers shall have an ongoing obligation to disclose to the Department any facts or circumstances that may give rise to a conflict of interest with respect to an offset project, offset project developer, or project sponsor.
  - 10.6.5.3 The Department may reject a verification report and certification statement from an accredited verifier, submitted as part of a consistency application required pursuant to subsection 10.4.2 ~~of this regulation~~ or submitted as part of a monitoring and verification report submitted pursuant to subsection 10.7.2 ~~of this regulation~~, if the Department determines that the accredited verifier has a conflict of interest related to the offset project, offset project developer, or project sponsor.

10.6.5.4 The Department may revoke the accreditation of a verifier at any time given cause, for the following:

10.6.5.4.1 Failure to fully disclose any issues that may lead to a conflict of interest situation with respect to an offset project, offset project developer, or project sponsor;

10.6.5.4.2 The verifier is no longer qualified due to changes in staffing or other criteria;

10.6.5.4.3 Negligence or neglect of responsibilities pursuant to the requirements of ~~this regulation~~; and

10.6.5.4.4 Intentional misrepresentation of data or other intentional fraud.

## **10.7 Award and Recordation of CO<sub>2</sub> offset allowances.**

### **10.7.1 Quantities of CO<sub>2</sub> offset allowances awarded, and subsequently recorded.**

10.7.1.1 Award of CO<sub>2</sub> offset allowances.

10.7.1.1.1 CO<sub>2</sub> emissions offset projects. Following the issuance of a consistency determination under subsection 10.4.5.2 of this regulation and the approval of a monitoring and verification report under the provisions of subsection 10.7.5 of this regulation, the Department will award one CO<sub>2</sub> offset allowance for each ton of demonstrated reduction in CO<sub>2</sub> or CO<sub>2</sub> equivalent emissions or sequestration of CO<sub>2</sub>.

10.7.1.2 Recordation of CO<sub>2</sub> offset allowances. After CO<sub>2</sub> offset allowances are awarded under subsection 10.7.1.1 of this regulation, the Department shall record such CO<sub>2</sub> offset allowances in the project sponsor's general account.

### **10.7.2 Deadlines for submittal of monitoring and verification reports.**

10.7.2.1 For CO<sub>2</sub> emissions offset projects undertaken prior to January 1, 2009, the project sponsor must submit the monitoring and verification report covering the pre-2009 period by June 30, 2009.

10.7.2.2 For CO<sub>2</sub> emissions offset projects undertaken on or after January 1, 2009, the monitoring and verification report must be submitted within 6 months following the completion of the last calendar year during which the offset project achieved CO<sub>2</sub> equivalent reductions or sequestration of CO<sub>2</sub> for which the project sponsor seeks the award of CO<sub>2</sub> offset allowances.

**10.7.3 Contents of monitoring and verification reports.** For an offset project, the monitoring and verification report must include the following information.

10.7.3.1 The project's sponsor's name, address, e-mail address, telephone number, facsimile transmission number, and account number.

10.7.3.2 The CO<sub>2</sub> emissions reduction or CO<sub>2</sub> sequestration determination as required by the relevant provisions of subsection 10.5 of this regulation, including a demonstration that the project sponsor complied with the required quantification, monitoring, and verification procedures under subsection 10.5 of this regulation,

as well as those outlined in the consistency application approved pursuant to subsection 10.4.5.2 of this regulation.

10.7.3.3 A signed statement that reads

*"The undersigned project sponsor hereby confirms and attests that the offset project upon which this monitoring and verification report is based is in full compliance with all of the requirements of the CO<sub>2</sub> Budget Trading Program. The project sponsor holds the legal rights to the offset project, or has been granted the right to act on behalf of a party that holds the legal rights to the offset project.*

*I understand that eligibility for the award of CO<sub>2</sub> offset allowances under the CO<sub>2</sub> Budget Trading Program is contingent on meeting the requirements of the CO<sub>2</sub> Budget Trading Program. I authorize the Department or its agent to audit this offset project for purposes of verifying that the offset project, including the monitoring and verification plan, has been implemented as described in the consistency application that was the subject of a consistency determination by the Department.*

*I understand that this right to audit shall include the right to enter the physical location of the offset project and to make available to the Department or its agent any and all documentation relating to the offset project at the Department's request. I submit to the legal jurisdiction of the State of Delaware."*

10.7.3.4 A certification signed by the offset project sponsor certifying that all offset projects for which the sponsor has received offset allowances under this Regulation (or similar provisions in the rules of other participating states), under the sponsor's ownership or control (or under the ownership or control of any entity which controls, is controlled by, or has common control with the sponsor) are in compliance with all applicable requirements of the CO<sub>2</sub> Budget Trading Program in all participating states.

10.7.3.5 A verification report and certification statement signed by an independent verifier accredited pursuant to subsection 10.6 of this regulation that documents that the independent verifier has reviewed the monitoring and verification report and evaluated the following in relation to the applicable requirements at subsection 10.5 of this regulation, and any applicable guidance issued by the Department.

10.7.3.5.1 The adequacy and validity of information supplied by the project sponsor to determine CO<sub>2</sub> emissions reductions or CO<sub>2</sub> sequestration pursuant to the applicable requirements at subsection 10.5 of this regulation.

10.7.3.5.2 The adequacy and consistency of methods used to quantify, monitor, and verify CO<sub>2</sub> emissions reductions and CO<sub>2</sub> sequestration in accordance with the applicable requirements at subsection 10.5 of this regulation and as outlined in the consistency application approved pursuant to subsection 10.4.5.2 of this regulation.

10.7.3.5.3 Such other evaluations and verification reviews as may be required by the Department. The adequacy and validity of information supplied by the project sponsor to demonstrate that the offset project meets the applicable eligibility requirements of subsection 10.5 of this regulation.

- 10.7.3.6 Disclosure of any voluntary or mandatory programs, other than the CO<sub>2</sub> Budget Trading Program, to which greenhouse gas emissions data related to the offset project has been, or will be reported.
  - 10.7.3.7 For offset projects located in a state or United States jurisdiction that is not a participating state, a demonstration that the project sponsor has complied with all requirements of the cooperating regulatory agency in the state or United States jurisdiction where the offset project is located.
- 10.7.4** Prohibition against filing monitoring and verification reports in more than one participating state. Monitoring and verification reports may only be filed under subsection 10.7 of this regulation for projects that have received consistency determinations under subsection 10.4.5.2 of this regulation. Monitoring and Verification reports may not be filed under subsection 10.7 of this regulation for projects that have received consistency determinations in other participating states.
- 10.7.5 *Department action on monitoring and verification reports.*** The Department will approve or deny a complete monitoring and verification report, in a format approved by the Department, filed with the Department pursuant to subsection 10.7.4 of this regulation, within 45 days following receipt of a complete report. A complete monitoring and verification report is one that is in an approved form and is determined by the Department to be complete for the purpose of commencing review of the monitoring and verification report. In no event shall a completeness determination prevent the Department from requesting additional information in order to enable the Department to approve or deny a monitoring and verification report submitted in a format approved by the Department, and filed under subsection 10.7 of this regulation.

**17 DE Reg. 644 (12/01/13)**

~~12/11/13~~XX/XX/XX

**11.0 CO<sub>2</sub> Emissions Auction**

**11.1 Purpose**

The purpose of this section is to provide for the administration and implementation by the Department of CO<sub>2</sub> Allowance Auctions and programs to promote the purposes of the CO<sub>2</sub> Budget Trading Program.

**11.2 RESERVED**

**11.3 Multi-State Auctions**

**11.3.1** The Department shall participate in a multi-state CO<sub>2</sub> Allowance Auction or Auctions if the Department determines, in consultation the Delaware Public Service Commission that:

- 11.3.1.1 A multi-state auction capability and process is in place for the Participating States;
- 11.3.1.2 The multi-state auction can provide benefits that meet or exceed the objectives of the auction and purposes of the Account, as described in this Regulation, and;
- 11.3.1.3 The multi-state auction process would be consistent with the process described in this regulation.

**11.3.2** Should the Department, in consultation with the Public Service Commission, find that these conditions have not been satisfied, the Department may conduct a Delaware State auction or auctions pursuant to this regulation or may take such other action as the Secretary deems appropriate.

**11.3.3** Proceeds associated with the sale of all of State of Delaware's CO<sub>2</sub> Allowances, whether sold in a multi-state or a Delaware State CO<sub>2</sub> Allowance Auction shall be generated and appropriated as provided for in 7 Del C Chapter IIA Regional Greenhouse Gas Initiative and CO<sub>2</sub> Emission Trading Program.

#### **11.4 Implementation of CO<sub>2</sub> Allowance Auctions**

**11.4.1** The Department may design, implement and administer CO<sub>2</sub> Allowance Auctions in the event a regional auction is not held or does not meet the needs of the Department or this regulation. The Department shall make every effort to participate in a regional auction if at all possible.

**11.4.2** Implementation and administrative support functions for any auction conducted pursuant to this Regulation and with respect to the administration of the Account may be delegated by the Department to a contractor deemed qualified by the Department to perform such functions, provided that such designee shall perform all such functions under the direction and oversight of the Department.

#### **11.5 Commencement, Frequency and Quantity of CO<sub>2</sub> Allowance Auctions**

**11.5.1 Commencement:** The Department or its agent shall participate in or conduct CO<sub>2</sub> Allowance Auctions to sell such allowances pursuant to this regulation. The initial auction shall be conducted at such time and manner as determined by the Department in consultation with the Delaware Public Service Commission.

**11.5.2 Frequency:** CO<sub>2</sub> Allowance Auctions will be held ~~quarterly~~, or as often as practical and necessary to effectuate the objectives of the CO<sub>2</sub> Program.

**11.5.3 Calendar:** The Department or its agent shall maintain a calendar of anticipated auction dates on its Website. The calendar shall indicate the auction format and the number of allowances and allocation years of allowances to be auctioned at each auction. The Department or its agent may periodically revise the calendar, provided that the information relevant to the next scheduled CO<sub>2</sub> Allowance Auction shall be fixed no later than 45 calendar days prior to such auction. The calendar shall include the dates of at least the next four (4) CO<sub>2</sub> Allowance Auctions and may also include the anticipated number of allowances to be auctioned at each Auction. The Department or its agent may periodically modify the anticipated dates of Auctions listed on such calendar.

**11.5.4 Quantity:** Prior to the end of each Control Period, CO<sub>2</sub> Allowances for such Control Period will be made available for sale. CO<sub>2</sub> Allowances will be made available for sale by allocation year. Up to 50% of the allowances from an allocation year may be made available for sale in advance of the respective allocation year; such allowances may be made available for sale up to four (4) years in advance of such allocation year. Specific quantities of CO<sub>2</sub> Allowances that will be offered for sale will be included in each Notice of CO<sub>2</sub> Allowance Auction.

**11.5.5 Lot Sizes:** The Department shall make CO<sub>2</sub> Allowances available for sale in lot sizes of 1,000 allowances, except where available supply requires a smaller lot size.

**11.5.6 Reserve Price:** In administering Auctions, the Department may employ the use of a Reserve Price and the Department shall publish or announce such reserve price prior to each CO<sub>2</sub> Allowance Auction.

**11.5.7 Unsold Allowances:** Unsold CO<sub>2</sub> Allowances may be made available for sale in subsequent auctions or after consultation with the Public Service Commission.

## **11.6 Action Format**

The initial auction shall be conducted as a Single Round Sealed-Bid Uniform Price Auction. The Department, in consultation with the Delaware Public Service Commission, may employ a Single Round Sealed-Bid Uniform Price Auction or an Ascending Price, Multiple Round Auction in subsequent auctions or such other auction design as determined by the Department.

## **11.7 Participant Eligibility and Limitations**

**11.7.1** The owners or operators of CO<sub>2</sub> Budget Units located in the State of Delaware shall be eligible to participate in all auctions.

**11.7.2** Categories of bidders that may be eligible to participate in auctions include but are not limited to:

11.7.2.1 Owners or operators of CO<sub>2</sub> Budget Units within a Participating State

11.7.2.2 Owners or operators of a generation source located outside of the Participating States,

11.7.2.3 Brokers,

11.7.2.4 Environmental groups,

11.7.2.5 Financial and investment institutions, and

11.7.2.6 Other market participants.

**11.7.3** The Department, in consultation with the Delaware Public Service Commission, may preclude or limit the participation of any one or all of the categories of bidders. Notification of eligible categories of bidders will be included in each Notice of CO<sub>2</sub> Allowance Auction.

**11.7.4** Any party wishing to participate in a CO<sub>2</sub> Allowance Auction will be required to open and maintain a compliance or general account pursuant to the provisions in Section 6.0 of this regulation.

**11.7.5** Limitations: Participation in any auction may be limited to the level of financial security provided.

**11.7.6** The Department may institute a purchasing and/or bidding limitation in each auction. In no instance shall this limitation be greater than 25% of the allowances available in an auction not including the CCR. Any such limitations shall be included in the Notice of CO<sub>2</sub> Allowance Auction.

**11.7.7** Any applicant or bidder that has been found to have violated any rule, regulation, or law associated with any commodity market or exchange may be denied eligibility or precluded from participation in CO<sub>2</sub> Allowance Auctions.

## 11.8 Participation Requirements

**11.8.1 Qualification:** Any party wishing to participate in a CO<sub>2</sub> Allowance Auction or Auctions shall submit an application for qualification in the form and manner provided in the Notice of CO<sub>2</sub> Allowance Auction to the Department or its agent on or before the application deadline date specified in the Notice of CO<sub>2</sub> Allowance Auction. As a part of their application, applicants will be required to provide information and documentation relating to their ability and authority to execute bids and honor contractual obligations. Such documentation may include but may not be limited to:

- 11.8.1.1 Information and documentation regarding the corporate identity, ownership, affiliations, and capital structure of the applicant;
- 11.8.1.2 Declarations as to the beneficial ownership of any allowance that may be acquired through the auction;
- 11.8.1.3 The identification of any indictment or felony conviction of any member, director, principle, partner or officer of the applicant or any affiliate or related entity;
- 11.8.1.4 The identification of any previous or pending investigation with respect to any alleged violation of any rule, regulation, or law associated with any commodity market or exchange.
- 11.8.1.5 Evidence demonstrating that such applicant has opened a general or compliance account as provided for in the provisions in Section 6.0 of this regulation and identification of relationships with any other account holder.
- 11.8.1.6 Applicants may be denied qualification based on the information provided or upon information as to such applicant obtained independent of the application process.

**11.8.2** The Department or its agent will review each application for qualification and make determinations as to qualification to participate or otherwise submit bids in CO<sub>2</sub> Allowance Auctions. Failure to provide any information required by the Notice of CO<sub>2</sub> Allowance Auction may result in the application being declared incomplete or otherwise deficient. If an application for qualification is determined to be incomplete or otherwise deficient, the Department or its agent shall notify the Applicant and state the reason therefore. The Department may offer an opportunity for the applicant to remedy their application by the deadline pursuant to the Auction Notice. Qualified applicants will be notified by the Department or its agent pursuant to the Auction Notice.

**11.8.3** Parties found qualified for participation under subsection 11.8.2 of this regulation will be qualified for subsequent CO<sub>2</sub> Allowance Auctions, and will be qualified to participate in such auctions within the financial security limitations of subsection 11.8.8 of this regulation; provided that there has been no material change to the information provided in the application, that the party is within one of the categories of eligible bidders described in the Notice of CO<sub>2</sub> Allowance Auction for such auction, and such party meets all other requirements for participation. Any party found qualified shall notify the Department of any material change in the information provided in the application for qualification by the date on which qualification applications for the next auction are due. Such notification shall state the date the change occurred and describe the change in sufficient detail to enable the Department or its agent to determine if a change in the qualification status to participate in future auctions is warranted.

- 11.8.4** The Department may require parties previously found qualified to up-date and re-file applications for qualification on an annual basis or as requested by the Department.
- 11.8.5** The Department may suspend or revoke previously granted qualification of any party if such party fails to comply with this section and/or the provisions of this regulation.
- 11.8.6** Bid Submittal Instructions. All bids shall be in a form prescribed by the Department, which shall be made available electronically on the CO<sub>2</sub> Allowance Auction Website, as appropriate. All bids submitted will be considered binding offers for the purchase of allowances under the rules of the auction, and this regulation.
- 11.8.7** If the Department determines that a bidder has provided false or misleading information, or has withheld pertinent information in its application, or has otherwise failed to comply with any material provision of this regulation or has violated any part of the auctions rules, the bidder may be prohibited from participating in any future CO<sub>2</sub> Allowance Auctions.
- 11.8.8** To receive approval to participate in any specific auction, otherwise qualified bidders will be required to provide financial security in the form of a bond, cash, certified funds, or an irrevocable stand-by letter of credit, in a form acceptable to the Department. Financial security shall be provided in a form and manner as described in the Notice of CO<sub>2</sub> Allowance Auction.

11.8.8.1 Parties who have posted financial security may request return of their financial security at any time prior to or following any CO<sub>2</sub> Allowance Auction, and the Department shall return said financial security provided that the Department has no current or pending claim to such security as a result of a failure of the party to comply with these regulations or to pay the full amount of its accepted bid when due.

11.8.8.2 Financial security may be forfeited to and retained by the Department or its agent in the event the bidder's offer is accepted in a CO<sub>2</sub> Allowance Auction and the bidder fails to tender payment of the full amount when due.

## **11.9 Notice of Auctions**

11.9.1 A Notice of CO<sub>2</sub> Allowance Auction ("Notice") shall be published on the CO<sub>2</sub> Allowance Auction Website no later than 45 days prior to the date upon which each auction may be conducted. Such Notices may be transmitted electronically to parties requesting such notification provided they have submitted an electronic-mail address to the Department or its agent.

**11.9.2** Each Notice will provide a specific description of all auction participation requirements, and shall include but not be limited to information including the date, time and location of the CO<sub>2</sub> Allowance Auction, the categories of bidders who will be eligible to bid, the quantity of CO<sub>2</sub> Allowances to be auctioned, the auction format, amount and type of security required, any participation limitations, information regarding settling and clearing of allowance payments, instructions as to qualification applications, a standard allowance purchase and sale contract, other pertinent rules of the auction, and provide a point of contact for further information.

## **11.10 Auction Reporting and Transfer of CO<sub>2</sub> Allowances**

An independent monitor such as a certified public accounting firm or similar entity shall observe the conduct and outcome of each auction and issue a report to the Department or its agent in

accordance with professional auditing standards addressing whether the auction was conducted in accordance with the rules and procedures in the respective Notice of CO<sub>2</sub> Allowance Auction. Upon receipt and approval by the Department of the report and upon payment in full by successful bidders, the Department shall transfer or have transferred the corresponding CO<sub>2</sub> Allowances to each successful bidder's applicable compliance or general account.

#### **11.11 Auction and Secondary Market Monitoring**

11.11.1 In advising the Department or its agent, the professional independent auction monitor will monitor each CO<sub>2</sub> Allowance Auction and develop and apply data collection methods, metrics, and analytic techniques, and thresholds for identifying any bidding behavior or activity that may have a significant impact on the efficiency and performance of such auctions, including, but not limited to:

11.11.1.1 Collusion,

11.11.1.2 Market power, and/or

11.11.1.3 Price manipulation.

11.11.2 The independent auction monitor shall also monitor allowance market data and information known to the Department including allowance transactions and associated pricing reported in the CO<sub>2</sub> Allowance Tracking System, and other relevant data and information to ensure fair competition, efficient pricing, and protection against collusive or manipulative behavior in the CO<sub>2</sub> Allowance Auctions and the CO<sub>2</sub> Budget Trading Program.

#### **11.12 Antideceptive Practices.**

It is unlawful for a bidder to use or employ any manipulative, misleading, or deceptive practice in connection with its prequalification application or purchase of allowances from the Department, including but not limited to any practice that is in contravention of any applicable federal or state law or regulation.

#### **11.13 Publication of Results**

Within 10 days of the Transfer of CO<sub>2</sub> Allowances provided for under subsection 11.10 of this regulation, the Department or its agent shall publish on its website the auction clearing price and the total amount of Allowances sold in such Auction.

**12 DE Reg. 674 (11/01/08)**

**17 DE Reg. 644 (12/01/13)**



## **APPENDIX "B"**



**TECHNICAL RESPONSE MEMORANDUM**

To: Lisa Vest, Hearing Officer

Through: Valerie Gray *vag* 10/15/2018

From: Christian Wisniewski  10/15/2018

Re: Department's Response to Comments received on the proposed amendments to 7 DE Admin. Code 1147 – *CO<sub>2</sub> Budget Trading Program*.



You presided over a public hearing on Wednesday, August 29, 2018 beginning at 6:00 PM in the Auditorium at The Richardson and Robbins Building, 89 Kings Highway, Dover. The subject of the public hearing was a proposed revision to 7 DE Admin. Code 1147 – CO<sub>2</sub> Budget Trading Program. The Department received comments from the following:

<b>Date Received</b>	<b>Name</b>	<b>Organization</b>
8/24/2018	Jim Melville	Private Citizen
8/24/2018	Dr. Barbara Boyce	Private Citizen
8/24/2018	Barbara Walker	Private Citizen
8/24/2018	Deborah Pote	Private Citizen
8/24/2018	Frank Richards	Private Citizen
8/24/2018	Jay1228	Private Citizen
8/24/2018	Jerry Groll	Private Citizen
8/24/2018	Joanne Butler	Private Citizen
8/24/2018	Martin Shuey	Delaware Electric Cooperative
8/24/2018	Mary Yemc	Private Citizen
8/24/2018	Michael Hartmann	Private Citizen
8/24/2018	Michele Greene	Private Citizen
8/24/2018	Peter Righos	Private Citizen
8/24/2018	Shirley Wiley	Private Citizen
8/24/2018	Stacy Couch	Private Citizen
8/24/2018	Stanley Donovan	Private Citizen
8/24/2018	Stephen Quindlen	Private Citizen
8/24/2018	Suzanne Haschak	Private Citizen
8/24/2018	Teresa Loporto	Private Citizen
8/24/2018	Tom Hunter	Private Citizen
8/24/2018	Tom McGinley	Private Citizen
8/24/2018	Walt Curran	Private Citizen
8/24/2018	Wilhelmina Anderson	Private Citizen
8/25/2018	Barbara Cullis	Private Citizen
8/25/2018	Charles Talkowski	Private Citizen
8/25/2018	Colleen Magee	Private Citizen
8/25/2018	Kurt Doehla	Private Citizen
8/25/2018	Anna vonLindenbug	Private Citizen
8/24/2018	Beth Bryson	Private Citizen
8/24/2018	Bill Larsen	Private Citizen
8/26/2018	Carol Costante	Private Citizen
8/24/2018	Chris Adkins	Private Citizen
8/24/2018	Dennis McCabe	Private Citizen
8/25/2018	HW Smithson	Private Citizen

8/25/2018	J Dorovich	Private Citizen
8/24/2018	Joseph Caputo	Private Citizen
8/26/2018	John Dolan	Private Citizen
8/24/2018	John Gerber	Private Citizen
8/25/2018	J A Rudsky	Private Citizen
8/25/2018	Marilou Merrill	Private Citizen
8/26/2018	Mary McCrossan	Private Citizen
8/24/2018	Peter Rigby	Private Citizen
8/26/2018	Timothy Spong	Private Citizen
8/26/2018	Vince Brady	Private Citizen
8/27/2018	Anonymous	Private Citizen
8/27/2018	Joanne & Dwight Herow	Private Citizen
8/27/2018	Joseph LoPorto	Private Citizen
8/27/2018	Karen Yasik	Private Citizen
8/27/2018	Peggy Gerber	Private Citizen
8/28/2018	Richard Blackman	Private Citizen
8/28/2018	David Stevenson	Caesar Rodney Institute
8/28/2018	William Whipple	Secure America's Future Economy
8/29/2018	Barbara Bullock	Private Citizen
8/29/2018	Robert Kochen	Private Citizen
8/29/2018	Suzanne Cavanaugh	Private Citizen
8/29/2018	Duane	Private Citizen
8/30/2018	John Nichols	Private Citizen
9/28/2018	Joint comments	Sierra Club Natural Resources Defense Council Environment America Environment New Jersey Acadia Center
9/28/2018	Sierra Club Members (117)	Sierra Club
9/28/2018	Coralie Pryde	Sierra Club
9/28/2018	Daniel Short, et al.	Delaware House of Representatives
9/28/2018	J. William Andrew & D. Richard Beam	Delaware Electric Cooperative & Old Dominion Electric Cooperative
9/28/2018	Noah Bucon	Center for Resource Solutions

**Comments Received at Public Hearing**

8/29/2018	David Stevenson	Caesar Rodney Institute
8/29/2018	John Nichols	Private Citizen
8/29/2018	Beth Chajes	Sierra Club
8/29/2018	Coralie Pryde	Sierra Club

This memorandum provides a summary of the comments received and the Division of Air Quality (DAQ) response. Each comment received is included verbatim as an attachment. The comments and the public hearing transcript containing comments are available on the Regional Greenhouse Gas Initiative (RGGI) page of the Department website. Available:

<http://www.dnrec.delaware.gov/Air/Pages/RegionalGreenhouseGasInitiative.aspx>

## I. General Comments

### Comment 1

Many of the comments received from individuals stated that the State of Delaware has met its 2025 air quality goals for greenhouse gas emission reductions, which would make the proposed amendments to 7 DE Admin Code 1147 unnecessary.

#### Department Response

The State of Delaware has no established air quality goals for greenhouse gas emission reductions.

The comments are likely referring to the State of Delaware's commitment to reduce greenhouse gas emissions by 26-28% by 2025, which has not been met. This commitment was made when the state joined the U.S. Climate Alliance and pledged to uphold the goal of the Paris Accord<sup>1</sup>. By joining the U.S. Climate Alliance, Delaware committed to:

*“Implement policies that advance the goals of the Paris Agreement, aiming to reduce greenhouse gas emission by at least 26-28 percent below 2005 levels by 2025.” And “[a]ccelerate new and existing policies to reduce carbon pollution and promote clean energy deployment at the state and federal level.”*

The target emission reduction is related to greenhouse gas emissions as a whole, not solely power sector emission reductions. The U.S. Climate Alliance commitment is the current goal for the State of Delaware that has yet to be achieved. The 2014 greenhouse gas emissions inventory for the State of Delaware shows that net CO<sub>2</sub> emissions decreased by 20.7% between 2005 and 2014. In order to reach the goal of a 26-28 percent reduction, an additional 0.94-1.3 million tons of CO<sub>2</sub> emissions must be avoided. With current policies and state energy profile, CO<sub>2</sub> emissions projections show that an increase in net CO<sub>2</sub> emissions is likely. By 2025, it is projected that net CO<sub>2</sub> emissions will increase by 10.3 percent from 2014. This will generate a significant gap of 2.4-2.8 million tons of CO<sub>2</sub> from the goal of the U.S. Climate Alliance. With current projections, the State of Delaware will only reach a 12.5 percent reduction in CO<sub>2</sub> emissions as compared to 2005, or less than half of what the State committed to.

Delaware's continuing participation in the RGGI program and amendments to the state's program are key components of the state's strategy to reduce greenhouse gas emissions.

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<sup>1</sup> U.S. Climate Alliance. (2018). *Alliance Principles*. Retrieved from <https://www.usclimatealliance.org/alliance-principles/>

## **Comment 2**

Many of the comments received stated that the RGGI program is not effective for the State of Delaware and the state should end its participation in the program.

### **Department Response**

This rulemaking addresses and is limited to the regulatory amendments to 7 DE Admin Code 1147 to effectuate the 2016 Program Review modifications approved by the participating states. Nonetheless, Delaware’s participation in the RGGI program has provided many economic and environmental benefits. Since the first allowance auction in 2009, proceeds to Delaware exceed \$100 million for the state to achieve energy efficiency and renewable energy goals. Independent analyses for the proposed amendments show all additional positive benefits for the State of Delaware. While on track to further reduce CO<sub>2</sub> emissions of applicable electricity generating units, Delaware will realize increases in jobs, gross state domestic product, and personal income<sup>2</sup>. In addition, a customer bills analysis provided by the Analysis Group for the 2016 RGGI Program Review shows that electricity rates will be decreasing for residential, commercial, and industrial customers through 2030 in Delaware<sup>3,4</sup>. Independent studies also examined the health benefits of participation in the RGGI program. From 2009 to 2014, the results of the assessment showed that 12-26 deaths, 1,364 lost work days, and 274 upper respiratory symptoms have been avoided, among other health impacts, in Delaware<sup>5</sup>. The value of all avoided detrimental health effects was as much as \$274 million.

## **Comment 3**

Some of the comments received stated that the “trigger prices” (i.e. cost containment trigger reserve price and the emissions containment reserve trigger price) should not be altered. Furthermore, a comment was made that the emissions containment reserve not be adopted at this time.

### **Department Response**

The changes in the cost containment reserve (CCR) trigger prices are necessary to continue to meet the goals of the RGGI program. The CCR feature of the CO<sub>2</sub> Budget Trading Program is intended to provide balanced cost control while maintaining the overall environmental integrity of the regional emissions cap. The proposed changes to the CCR trigger prices were determined based upon a series of iterative modeling runs. The CCR is an important feature of the CO<sub>2</sub> Budget Trading Program as it establishes an excess amount of allowances that can be available in the case of unforeseen market conditions. For example, in the event of a polar vortex, low temperatures cause an increase in electricity demand for heating applications. More demand requires power plants to generate more power and increase emissions. If

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<sup>2</sup> ICF International. (2017, December). *RGGI Program Review: REMI Modeling Results*. Retrieved from [http://www.dnrec.delaware.gov/Air/Documents/REMI\\_2017\\_12\\_19.pdf](http://www.dnrec.delaware.gov/Air/Documents/REMI_2017_12_19.pdf)

<sup>3</sup> Analysis Group. (2017, September). *IPM Potential Scenario Customer Bill Analysis*. Retrieved from [https://rggi.org/sites/default/files/Uploads/Program-Review/9-25-2017/Customer\\_Bills\\_Results\\_Overview\\_09\\_25\\_17.pdf](https://rggi.org/sites/default/files/Uploads/Program-Review/9-25-2017/Customer_Bills_Results_Overview_09_25_17.pdf)

<sup>4</sup> Department of Natural Resources and Environmental Control. (2018, August). *Amendment to 7 DE Admin Code 1147 - CO<sub>2</sub> Budget Trading Program Technical Support Document*. Retrieved from [http://www.dnrec.delaware.gov/Air/Documents/08-29-18\\_Technical%20support%20doc%20Reg1147.pdf](http://www.dnrec.delaware.gov/Air/Documents/08-29-18_Technical%20support%20doc%20Reg1147.pdf)

<sup>5</sup> Abt Associates. (2017, January). *Analysis of the Public Health Impacts of the Regional Greenhouse Gas Initiative*. Retrieved from <https://www.abtassociates.com/insights/publications/report/analysis-of-the-public-health-impacts-of-the-regional-greenhouse-gas>

allowance prices rise above the CCR trigger price in this situation, additional allowances can be released into auction at the trigger price to accommodate the increased emissions.

The CCR was triggered twice: in 2014, providing 5 million additional allowances, and in 2015, providing 10 million additional allowances. The 2016 Program Review revealed that the CCR was triggered at times when a significant bank of allowances (i.e. allowances in excess of the quantity needed to surrender for compliance) already existed. The CCR was triggered because of an increase in investor participation in the auction who were speculating the effects of the Clean Power Plan. Thus, the CCR trigger prices established were too low and did not adequately serve the purpose of releasing additional allowances in the event of increased emissions, such as a polar vortex. The proposed changes to the CCR trigger prices are necessary to ensure CCR allowances are available in the case of actual emissions increases.

The emissions containment reserve (ECR) is a new design feature of the CO<sub>2</sub> Budget Trading Program that is proposed. Thus, there is no change to the ECR. Nonetheless, the ECR is a means of additional containment of CO<sub>2</sub> emissions in the event of lower than anticipated emissions reduction costs. The proposed size and trigger prices of the ECR were determined based on a series of iterative modeling runs. Implementation of the ECR will provide price stability in the CO<sub>2</sub> allowance market. The creation and use of the ECR will respond to supply and demand of the market if emission reduction costs are lower than projected. The Department believes that the ECR is an important design mechanism to complement the CCR to help achieve the goals of the CO<sub>2</sub> Budget Trading Program. Thus, the Department proposes to adopt the ECR as proposed in the amendments to the CO<sub>2</sub> Budget Trading Program.

#### **Comment 4**

One commenter stated that the Regulatory Flexibility Analysis (RFA) and Regulatory Impact Statement (RIS) as required by the Regulatory Transparency and Accountability Acts were not thorough enough. In addition, the comment stated that the RFA did not include alternatives to meet emission reduction goals without raising electric rates for individuals or small businesses.

#### **Department Response**

The Department agrees with the commenter that the RFA and RIS are required. The Department believes that the proposed amendments to the CO<sub>2</sub> Budget Trading Program are not subjected to the requirements of Delaware Code Title 29, Chapter 104 because they do not apply to small businesses or individuals at all. Thus, the Department believes the proposed amendments are exempted from such requirements. Nonetheless, the Department provided reasoning in the RFA and RIS for this notion.

In the submitted RFA, the Department stated that:

*“This regulation affects large fossil-fuel fired power generators and industrial units with a nameplate generating capacity greater than 25 MW. The Department would reasonably expect that electric generating facilities would be considered as individuals or business enterprises with annual gross receipts greater than \$4 million that provide personal services. It is unlikely that any given facility employs less than*

*20 persons though it is possible that the smaller municipalities operating electric generating units employ less than 20 persons.”*

The Department does not intend to alter its perspective and stands with this reasoning for exemption from RFA. Alternative methods for achieving emission reduction goals were provided in the RIS and are described below.

In the submitted RIS, the Department described the purpose and anticipated benefits of the proposed regulation. The purpose being to amend the CO<sub>2</sub> Budget Trading Program in Delaware to reflect the revisions to the RGGI program as agreed upon by the participating states. Delaware’s participation in the program generated over \$100 million in auctions since the start of the program. Proceeds were reinvested in consumer benefit programs (as stipulated by the authorizing statute). As a result of the reinvestments, the 2016 Program Review bills analysis for the proposed amendments project no negative impact, but a small positive impact for consumers. The Department also reiterated that the amendments do not subject individuals and/or small businesses to compliance. Nonetheless, the Department provided a good-faith estimate of potential costs for individuals and/or small businesses. Independent studies contracted by the RGGI participating states showed very small, but generally positive economic impacts for Delaware and the other participating states<sup>6,7,8</sup>.

The RIS included potential alternative methods to achieve the goals of the CO<sub>2</sub> Budget Trading Program. These include establishing a carbon tax, establishing a performance standard (such as an emission limitation), or requiring expensive heat rate improvements. The Department concluded that a cap and trade program is the most cost-effective policy for reducing CO<sub>2</sub> emissions from affected Delaware power plants. The cap and trade approach to limiting emissions is the most cost-effective policy because emission allowances migrate to the highest-valued uses, which cover the emissions that are the most costly to reduce. Therefore, emission reductions that are undertaken are those that are least costly to achieve. The uniform market price of allowances creates incentives for all covered sources to reduce emissions, and do so cost-effectively. Thus, there is no negative impact on electricity rates of individuals or small businesses, and in fact there is a positive impact as shown in independent modeling studies.

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<sup>6</sup> ICF International, RGGI, Inc. (2017, September). *Draft 2017 Model Rule Policy Scenario Overview*. Retrieved from [https://www.rggi.org/sites/default/files/Uploads/Program-Review/9-25-2017/Draft\\_IPM\\_Model\\_Rule\\_Results\\_Overview\\_09\\_25\\_17.pdf](https://www.rggi.org/sites/default/files/Uploads/Program-Review/9-25-2017/Draft_IPM_Model_Rule_Results_Overview_09_25_17.pdf)

<sup>7</sup> Id 3, 4.

<sup>8</sup> Hibbard, P. J., Tierney, S. F., Darling, P. G., & Cullinan, S. (2018). *The Economic Impacts of the Regional Greenhouse Gas Initiative on Nine Northeast and Mid-Atlantic States*.

### **Comment 5**

A few comments stated that power plant emissions are not the leading source of CO<sub>2</sub> emissions in the State of Delaware. The comments stated that CO<sub>2</sub> emissions from the transportation and industrial sector are both higher than those of the power sector.

#### **Department Response**

The Department acknowledges that transportation and industrial sector CO<sub>2</sub> emissions are greater than those of the power sector. This rulemaking is limited to the amendments to the CO<sub>2</sub> Budget Trading Program. Nonetheless, according to 2014 greenhouse gas emissions inventory data, the power, transportation, and industrial sector greenhouse gas emissions were 23%, 28%, and 29%, respectively, of Delaware's total greenhouse gas emissions. Reducing emissions from any of these top three emitting sectors is important for achieving the goals that Delaware agreed upon in the U.S. Climate Alliance.

### **Comment 6**

A comment was submitted that Delaware should follow the EPA's promulgation of the Affordable Clean Energy (ACE) Rule, the replacement to the Clean Power Plan, and adopt a flexible plan to achieve further emissions in a cost-neutral manner across all sectors.

#### **Department Response**

The Department believes that participating in the RGGI program is a more effective and cost efficient method of reducing greenhouse gas emissions in the State of Delaware. By participating in the RGGI program, a mass-based approach is used to achieve a target emissions amount. The Department believes that the ACE rule will not provide sufficient reductions in greenhouse gas emissions needed to mitigate the effects of climate change and to meet Delaware's committed reduction goals in the U.S. Climate Alliance.

## **II. Comments regarding economics of the program**

### **Comment 7**

Many of the comments received stated that the residents of Delaware are paying for the costs of RGGI allowances because electricity generating units are "passing on the fees" to the ratepayers. The comments continued to state that this effect caused an increase in the consumer rate for electricity.

#### **Department Response**

Delaware's participation in the RGGI program has not caused an increase in the consumer rates for electricity in the state. According to the Delmarva Integrated Resource Plan (IRP), the residential customer supply price declined by approximately 33% since 2009 (beginning of the RGGI program)<sup>9</sup>. Thus, Delaware's participation in the RGGI program has not been shown to cause an increase in Delaware consumer electricity supply prices.

Furthermore, an independent study by the Analysis Group for RGGI, Inc. shows that with the proposed amendments, the average monthly electricity bill for Delaware residential, commercial, and industrial customers will decrease on average by 5.0%, 1.8%, and 2.9%,

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<sup>9</sup> Delmarva Power & Light Company. (2016, November). *2016 Integrated Resource Plan*. Retrieved from <https://dep.sc.delaware.gov/wp-content/uploads/sites/54/2017/03/DPL-Public-IRP-113016.pdf>

respectively, between the years 2017-2031<sup>10</sup>. Delaware electricity supply prices decreased since the state began participation in the RGGI program and are expected to continue to decrease with the proposed amendments.

Electricity generating units with a capacity equal to or greater than 25 MW are subject to the requirements of the regulation – namely, purchasing CO<sub>2</sub> allowances. Electricity generating units offer a specified amount of energy to the grid market. Delaware electricity generating units are a part of the PJM Interconnection. Within the PJM Interconnection, there are thousands of generating units – some in RGGI and some in non-RGGI states – that can offer energy to the wholesale market. Electricity is offered competitively in the wholesale market to be called upon for dispatch. The grid operators, PJM, dispatch power plants to the grid based on their offer prices. Meaning, the most competitive offer prices (i.e. most cost-effective) are selected to supply electricity to the grid. The offer price of the last generator called upon is the clearing price that is paid to all power plants that were called upon for dispatch. Offer prices can vary according to a number of factors; for example, the amount of demand at a given time or the current price of a given fuel. High, or peak, demands cause offer prices to rise while lower demands cause a drop.

Of the thousands of electricity generating units in the PJM Interconnection, twenty-six are located in Delaware and regulated by the CO<sub>2</sub> Budget Trading Program. It is extremely difficult to connect the costs of the RGGI program from wholesale electricity prices to Delaware residential electricity bills. No such direct connection has been shown for which Delaware electricity rate payers realize the costs of RGGI allowances on their electric bills. This has been shown in the Superior Court decision in the case of *Stevenson, et al. v. Delaware DNREC, et al.* (2018)<sup>11</sup>. The testimony of expert witness Dr. Susan Tierney explains that the cause and effect connection between CO<sub>2</sub> allowances and impacts on a customer's electricity bill could not be known because of “so many disconnections between the wholesale price formation and electricity rate-making for individual customers.<sup>12</sup>” There is no one-to-one relationship of electricity prices in the wholesale market and residential electricity bills because of the way the wholesale market operates, as described above.

The testimony of Dr. Tierney provides an explanation as to why consumer rates may have decreased while Delaware has been participating in the RGGI program<sup>13</sup>. Funds generated from the auctions of CO<sub>2</sub> allowances have been invested in energy efficiency programs. Such programs result in a decrease in demand and provide potential decreases in electricity prices.

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<sup>10</sup> Id 3, 4.

<sup>11</sup> *Stevenson et al. v. Delaware Dept. of Nat. Resources & Environmental Control, et al.*, S13C-12-025 RFS (Superior Court of the State of Delaware June 26, 2018) (Decision after Trial – Mem. Op.).

<sup>12</sup> *Stevenson et al. v. Delaware Dept. of Nat. Resources & Environmental Control, et al.*, S13C-12-025 RFS (Superior Court of the State of Delaware December 4, 2017).

<sup>13</sup> Id 12.

### **Comment 8**

Many of the comments received expressed that the revenue generated from the RGGI program should be allocated differently. Some comments stated that the revenue should be rebated back to residential electricity ratepayers. Other comments suggested that the revenue generated should be placed in the State of Delaware General Fund. One comment suggested that the revenue be rebated to electricity providers for them to decide how to rebate the consumers. One more commenter suggested that revenue could be set aside for Delaware residents in assistance for home solar panels.

### **Department Response**

The allocation of RGGI proceeds is outside the scope of this regulatory amendment. Delaware law sets out the uses for any RGGI auction proceed, and the Department is bound by those directives. The statute is listed in §6046 of Delaware Code Title 7, Chapter 60, subchapter II-A. §6046 (c) directs that:

*“(c) The Secretary shall direct auction proceeds to the following uses:*

*(1) Sixty-five percent of the CO<sub>2</sub> allowance proceeds shall be directed to the Sustainable Energy Utility (SEU), established in § 8059 of Title 29. The SEU shall apply these funds to further the goals and activities of the SEU including, but not limited to, the promotion of energy conservation, energy efficiency, renewable energy, and energy financing pursuant to § 8059(f)(3) of Title 29.*

*(2) A total of 15% of the CO<sub>2</sub> allowance proceeds shall be directed to low-income consumers, of which 10% shall be directed to the federally funded and state-administered Weatherization Assistance Program (WAP), and up to 5% shall be directed to the federally funded and state-administered fuel assistance (Low Income Home Energy Assistance Program or LIHEAP) programs. Participants in the LIHEAP program funded pursuant to this section shall also participate in the WAP program within 2 years of receiving assistance through LIHEAP, subject to funding availability. These programs are administered by the Division for State Service Centers in the Delaware Department of Health and Social Services.*

*(3) Percentage allocations of funds to the SEU and low-income consumers may be reviewed and adjusted annually by a committee comprised of the Secretary of the Department of Natural Resources and Environmental Control (DNREC), who shall serve as committee chair, the Chair of the Board of the SEU, and the program managers of the state WAP and LIHEAP.*

*(4) Ten percent of CO<sub>2</sub> allowance proceeds shall be directed to Greenhouse Gas Reduction Projects, selected by the Secretary following a periodic competitive proposal process. The Secretary shall utilize an advisory body composed of electric generators, environmental advocates, legislators and such others as the Secretary may find useful in developing guidelines for the proposal process and in soliciting and ranking of projects. Projects must result in quantifiable and verifiable reductions in Greenhouse gas emissions in*

*Delaware not otherwise required by federal or state law and not receiving funding from any other state sources.*

*(5) The Secretary shall use up to 10% of CO<sub>2</sub> allowance proceeds as detailed in subsection (d) of this section. Expenses for running the RGGI program shall be met first, prior to distribution of funds as outlined above.”*

### **Comment 9**

Many of the comments received expressed that a more thorough economic assessment of the use of the revenue generated from the RGGI program be provided.

#### **Department Response**

Thorough economic assessments have been conducted and are available. Please see Comment 8 above, detailing the statute that stipulates and directs how Delaware will invest the RGGI auction proceeds.

An annual proceeds report is issued by RGGI, Inc. detailing the proceeds and their uses by each of the RGGI states<sup>14</sup>. Furthermore, the allocations of Delaware’s proceeds are defined per §6046 (c). Sixty-five percent of the proceeds is directed to the Sustainable Energy Utility (SEU) for the promotion of energy conservation, energy efficiency, renewable energy, energy financing, and more. Further information on the SEU can be found on its website, including annual reports and financial reports<sup>15,16</sup>. A total of fifteen percent of the proceeds is directed to low income residents, of which ten percent is directed to Weatherization Assistance Program (WAP) and five percent to the Low Income Home Energy Assistance Program (LIHEAP).

In accordance with the 2016 Program Review, macroeconomic modeling was conducted by REMI to determine the effects of the proposed changes to the RGGI Model rule, and thus the proposed amendments<sup>17</sup>. The results of the analysis show that there is a small, but positive impact on three economic indicators: total employment, gross state product, and disposable personal income. Over the years 2017 through 2031, each on these indicators are predicted to show an increase. The model shows that the breakdown of allowance proceeds spending generates overall positive flows of money for the state. Specifically, spending on electric energy efficiency programs results in favorable energy savings for consumers through 2030. Furthermore, such investments also correspond to decreased production costs for commercial and industrial entities. Thus, the Department would refer commenters to the economic models and financial reports that are available for the revenue generated by RGGI allowance auctions.

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<sup>14</sup> RGGI, Inc. (2018, September). *Investment of Proceeds*. Retrieved from <https://www.rggi.org/investments/proceeds-investments>

<sup>15</sup> Delaware Sustainable Energy Utility. (2018). *Sustainable Energy*. Retrieved from <https://www.energizedelaware.org/sustainable-energy>

<sup>16</sup> Delaware Sustainable Energy Utility. (2018). *Reports*. Retrieved from <https://www.energizedelaware.org/reports>

<sup>17</sup> Id 2.

### **Comment 10**

Several comments expressed concern that Delaware's participation in the RGGI program caused a tax increase for the citizens of Delaware.

#### **Department Response**

The Department does not agree. The CO<sub>2</sub> Budget Trading Program is not a tax, but a market based approach to reducing CO<sub>2</sub> emissions in the power sector and is similar to the existing cap and trade programs for SO<sub>2</sub> and NO<sub>x</sub>. Although there are costs associated with compliance for electricity generating units, the purpose of the program is to stabilize and reduce CO<sub>2</sub> emissions at the lowest possible cost to compliance entities. The program does not result in taxes or fees for electricity ratepayers and, as stated above, has not increased electricity rates.

### **Comment 11**

Some of the comments received raised the question as to the Department's authority to reduce the amount of allowances available. Comments stated that this artificially raises the price of allowances.

#### **Department Response**

The Department has the authority amend the program by 7 Delaware Code, Chapter 60, §6043 (a) (9), which states "... [t]he cap and Delaware's allocation may be adjusted in the future." As consistent with Secretary's Order No. 2013-A-0054 for approval for the 2013 amendments to the CO<sub>2</sub> Budget Trading Program, the Department believes that the statute grants the DNREC Secretary the authority to further reduce the emissions cap to comply with the emissions reduction goal.

In addition, §6044 (a) authorizes the Secretary of the Department to implement and participate in the RGGI program. §6044 (c) authorizes the Secretary of the Department to promulgate regulations to implement the RGGI cap and trade program consistent with the RGGI Memorandum of Understanding, as amended.

### **Comment 12**

Some of the comments received stated the cost for electricity in Delaware is higher than most other states.

#### **Department Response**

This rule-making is limited to the proposed amendments to the Delaware CO<sub>2</sub> Budget Trading Program. The Department believes this comment is beyond this scope but reiterates that the electricity supply costs are largely affected by the price of electricity in the wholesale market. Wholesale electricity prices can vary according to many factors, including peak and seasonal demand and costs of fuel.

### **Comment 13**

Some of the comments received stated that revenue from CO<sub>2</sub> allowance auctions was nearly \$10 million per year and that this could increase to \$30-60 million in 2030. Commenters indicated this will be an expense for power generating sources.

#### **Department Response**

The Department agrees that the annual revenue of the allowance auctions was nearly \$10 million in 2017. While it is expected that increases in allowance prices will occur, the REMI economic modeling assessment shows that there will be economic benefits to the State of Delaware that are associated with the proposed amendments<sup>18</sup>. The reinvestments of auction proceeds in energy efficiency and renewable energy reduce overall electricity demand – resulting in reduced need to purchase electricity. From the REMI modeling, between 2017 and 2031, it is projected there will be an increase in total employment by 5,000 job-years. Using a 3% discount rate, the gross state product is projected to increase by \$280 million, while disposable personal income is slated to increase by \$230 million. The proposed amendments to the CO<sub>2</sub> Budget Trading Program are crucial to achieving the projected economic benefits for Delaware.

### **Comment 14**

A comment was submitted that median household income in Delaware dropped by over \$5,000 a year, while nationally, income increased by almost \$1,000 per year between 2007 and 2015. The commenter said this was caused by a loss in jobs related to energy intensive businesses.

#### **Department Response**

The Department believes this comment is beyond the scope of the proposed amendments. Nonetheless, the Department offers insight to the content of the comment.

The Department reiterates that findings in the independent REMI economic modeling show that the proposed amendments increase the number of jobs in the state. Furthermore, the modeling shows that income is also projected to increase in Delaware.

According to the Small Area Income and Poverty Estimates (SAIPE) tool, provided by the U.S. Census Bureau, median household income in the U.S. and Delaware decreased from 2007 to 2015, after adjusting for inflation<sup>19</sup>. The data were adjusted using Consumer Price Index inflation factors, provided by the U.S. Department of Labor<sup>20</sup>. From 2007 to 2015, U.S. median household income dropped 2.7%, while median household income fell at a similar rate of 3% in Delaware. The data are shown in Figure 1. The median household income for both the U.S. and Delaware have not recovered to levels above economic recession of 2008. However, median household income is currently trending upwards nationally and in the State of Delaware. The drop in median household income cannot be directed to costs of CO<sub>2</sub> allowances, but is better attributed to stronger market factors.

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<sup>18</sup> Id 3, 4.

<sup>19</sup> U.S. Census Bureau. (2017, November). *Small Area Income and Poverty Estimates Program*. Retrieved from <https://www.census.gov/programs-surveys/saipe.html>

<sup>20</sup> U.S. Department of Labor. (2018). *Bureau of Labor Statistics - Consumer Price Index*. Retrieved from <https://data.bls.gov/pdq/SurveyOutputServlet>

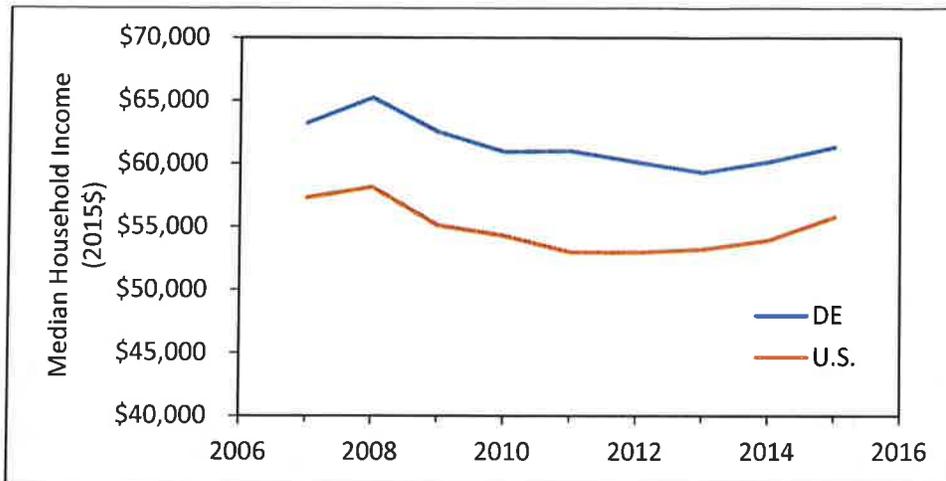


Figure 1. Comparison of the median household income of Delaware and the U.S., adjusted for inflation

### III. Comments regarding electricity in Delaware

#### **Comment 15**

Some commenters stated that the participation of Delaware in the RGGI program caused Delaware electricity providers to import more electricity from out-of-state generation sources than from in-state generation sources. Similar comments stated that allowance costs caused electricity generated from Delaware sources to be less competitive in the wholesale market for electricity. Furthermore, one comment included data which stated that electricity imports increased in the RGGI region from the period of 2007 to 2015.

#### **Department Response**

Delaware in-state electricity generation was 8.73 million MWh in 2016 according to the Energy Information Administration (EIA)<sup>21</sup>. This value is the highest amount of in-state generation over the past 20 years. Furthermore, the increases in generation from natural gas fired sources offset and exceed the losses in coal fired generation capacity. Generation from natural gas fired units increased from 1.90 million MWh in 2007 to 7.79 million MWh in 2016 – which is a fourfold increase. Thus, electricity generation has increased in-state, signifying that electricity generated in the State of Delaware is continuing to be competitive in the wholesale market.

The Department reiterates that this rulemaking only pertains to Delaware's CO<sub>2</sub> Budget Trading Program. Therefore the Department is limited to responding to only aspects that apply to the State, not the RGGI region. According to EIA data, Delaware electricity imports in 2007 were 28.1% of the total State demand (shown in Figure 2 below)<sup>22</sup>. It is true that imports increased in 2015, compared to 2007; however, the increase was not large as imports totaled 32.1% of the electricity demand in 2015. Since 2007, the only years the electricity imports

<sup>21</sup> U.S. Energy Information Administration. (2018, January). *Delaware Electricity Profile 2016*. Retrieved from <https://www.eia.gov/electricity/state/Delaware/>

<sup>22</sup> U.S. Energy Information Administration. (2017, November). *Detailed State Data*. Retrieved from <https://www.eia.gov/electricity/data/state/>

were greater than in-state generation were 2009 and 2010. The likely cause of this was the economic recession of 2008. Since then, electricity imports declined through 2012. Imports increased a small amount in 2013 and remained fairly constant through 2015. In 2016, however, electricity imports to Delaware were at their lowest in the analyzed time period, while in-state generation was at its highest. Electricity imports dropped to only 22.4% of the total State of Delaware electricity demand. Thus, in-state generation of electricity has not decreased, and the reliance on out-of-state generation has not increased.

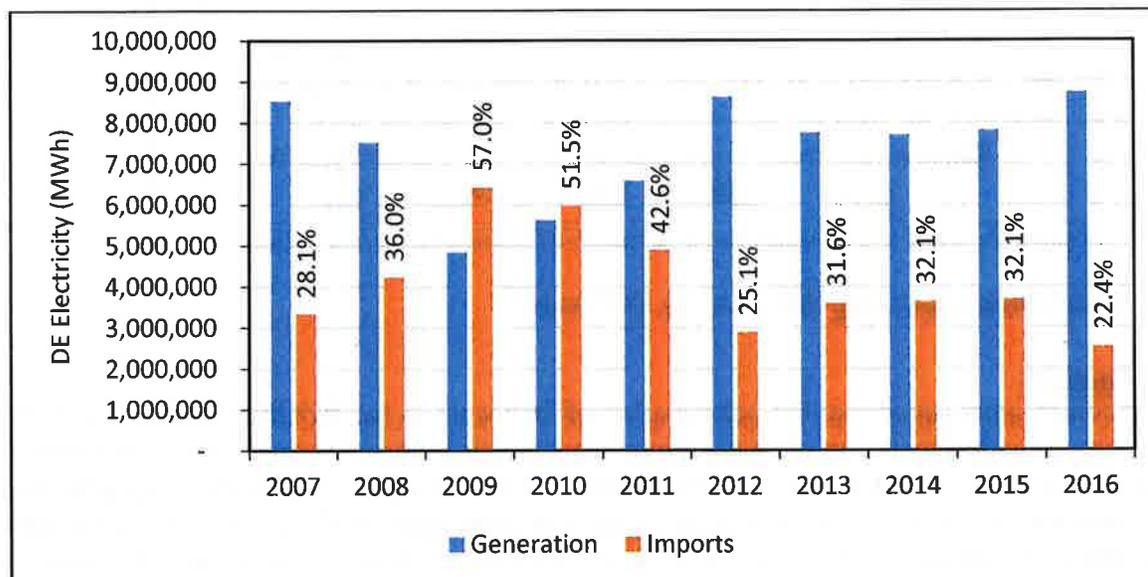


Figure 2. Delaware electricity demand by in-state generation and out-of-state imports from 2007-2016; percentages shown are the amount of electricity imported in the total state demand

**Comment 16**

A comment stated that a decreased amount of in-state power generation may reduce electric grid reliability in Delaware.

**Department Response**

Delaware’s participation in the RGGI program has not decreased in-state electricity generation, nor is it expected to result in decreases in the future. Please see Comment 15 above. Furthermore, according to the 2016 Delmarva IRP, grid reliability requirements will be sufficiently met for the PJM region through the year 2026, using the combination of generation resources in the PJM Delmarva Power and Light (DPL) Zone and capability of the transmission system to import electricity into the DPL Zone. Thus, the generation sources in the DPL zone (e.g. Delaware in-state generation sources), will maintain generation to ensure grid reliability. There is no detrimental effect of the RGGI program in Delaware on in-state generation, and, thus grid reliability.

**Comment 17**

One commenter provided analysis using energy intensity – the amount of gross domestic product for each unit of energy – as a metric. The comment suggested that states with a greater rate of increase in GDP per unit (MWh) of energy produced between two nominal years have greater energy intensity. The units of energy intensity used in the comment were MWh/million \$, and the comment stated “energy intensity improves when it goes down.” The comment said that RGGI states had a lower rate of energy intensity increase compared to select comparison states.

**Department Response**

The proposed amendments are limited to the Delaware CO<sub>2</sub> Budget Trading Program. Thus, the Department’s response only addresses the “energy intensity” as it pertains to the State of Delaware, not the RGGI region. The commenter used the years 2007 and 2015 as the nominal years. 2007 was selected since it was the year before the first RGGI auction. Table 1 below shows the data provided by the commenter, as well as Delaware data (all sourced from the EIA and Bureau of Economic Analysis)<sup>23,24</sup>.

Table 1. Energy Intensity of Delaware, comparison states\*, and the U.S.

	Demand (million MWh)		Gross State/Domestic Product (billion 2009 dollars)		Energy Intensity (MWh/million \$)		Percent Change
	2007	2015	2007	2015	2007	2015	
Delaware	11.9	11.5	57.8	61.2	205	188	-8.4%
Comparison States *	851.9	873.8	3,049.5	3,535.9	279	247	-11.5%
U.S. Total	3,764.6	3,759.0	14,798.4	16,089.0	254	234	-8.2%

\* Comparison states were IL, OH, OR, PA, and TX

It can be seen that the comparison states do in fact have a greater percent decrease in energy intensity. However, the comparison states have a higher overall energy intensity, suggesting that energy generation has a more significant role in the economics of those states. Texas, Pennsylvania, and Illinois are ranked in the top five for electricity generation in the country in 2007 and 2015. In fact, in 2015 Texas generated more electricity than Pennsylvania and Illinois combined and accounted for 11% of the national total<sup>25</sup>. Furthermore, it can be seen that the demand for electricity decreased in Delaware while the gross state product increased between 2007 and 2015, which points to the successes in the investment of RGGI proceeds to energy efficiency programs.

Another consideration for comparison would be the carbon intensity of electricity generation for the states. Carbon intensity here is the amount of CO<sub>2</sub> emitted per unit of electricity generated. Carbon intensity also improves as it decreases as less CO<sub>2</sub> is emitted per MWh of electricity generated. Table 2 shows generation, CO<sub>2</sub> emissions, and the carbon intensity data

<sup>23</sup> Id 22.

<sup>24</sup> Bureau of Economic Analysis. (2018). *GDP by State*. Retrieved from <https://www.bea.gov/data/gdp/gdp-state>

<sup>25</sup> Id 22.

for Delaware, the comparison states, and the United States<sup>26</sup>. Carbon intensity decreased at twice the rate of the comparison states and the United States between 2007 and 2015, again signaling the successes of the CO<sub>2</sub> Budget Trading Program to reduce CO<sub>2</sub> emissions from the power sector.

Table 2. Carbon intensity of Delaware, comparison states\*, and the U.S.

	Generation (million MWh)		CO <sub>2</sub> emissions (million tons CO <sub>2</sub> )		Carbon Intensity (MWh/ton CO <sub>2</sub> )		Percent Change
	2007	2015	2007	2015	2007	2015	
Delaware	8.5	7.8	6.6	3.7	0.86	0.52	-39%
Comparison States *	1,042.1	1,038.1	577.1	464.0	0.53	0.43	-18%
U.S. Total	4,156.7	4,077.6	2,311.3	1,843.4	0.85	0.69	-19%

\* Comparison states were IL, OH, OR, PA, and TX

### **Comment 18**

A few comments been made that increasing electricity imports causes the emissions for Delaware electricity use to be exported to out-of-state sources, otherwise known as emissions leakage.

#### **Department Response**

The Department reiterates that in-state generation has increased while demand is decreasing. Thus, there has not been an increase in the amount of electricity that is imported to Delaware. Nonetheless, the RGGI, Inc. 2015 Monitoring Report for CO<sub>2</sub> emissions from electricity generation and imports in the region provide indicators of emissions leakage, or lack thereof<sup>27</sup>. The report focuses on the RGGI region, and not specifically towards the State of Delaware. However, import data with regards to the PJM region for non-RGGI sources to RGGI states are provided in Table 1 (p. 15) of the report. The relevant data provided in the report to the State of Delaware are “Net Imports – from non-RGGI PJM to RGGI PJM.” These data are presented as both electricity serving demand and CO<sub>2</sub> from the electricity serving demand. It should be noted that Maryland would also be included in this data, as Maryland and Delaware are the only RGGI states currently within the PJM regional transmission organization (RTO). In Table 1 of the report, the electricity demand and emissions data associated with the specified net imports can be seen. While net electricity import did increase in 2015 in this region, it cannot be determined if majority of the imports are to Maryland or Delaware. Regardless, in 2015, the CO<sub>2</sub> emissions associated with import from the PJM non-RGGI sources were among their lowest values since 2009 (in this time period, only 2014 was lower by 18,000 tons, or 0.1%). Furthermore, the emissions in 2015 were nearly equal to those in 2007 associated with imports (2015 CO<sub>2</sub> emissions were only 220,000 tons greater, or 1.3%). Finally, 2015 CO<sub>2</sub> emissions from imports were lower than those from 2005 by 2.42 million tons, or 11.8%.

<sup>26</sup> Id 22.

<sup>27</sup> RGGI, Inc. (2018, April). *CO<sub>2</sub> Emissions from Electricity Generation and Imports in the Regional Greenhouse Gas Initiative: 2015 Monitoring Report*. Retrieved from [https://www.rggi.org/sites/default/files/Uploads/Electricity-Monitoring-Reports/2015\\_Elec\\_Monitoring\\_Report.pdf](https://www.rggi.org/sites/default/files/Uploads/Electricity-Monitoring-Reports/2015_Elec_Monitoring_Report.pdf)

The 2015 Monitoring Report offers no conclusion on emissions leakage, since electricity generation is dependent on a variety of different factors, including changes in demand, relative fuel prices, and wholesale electricity prices. The rising amount of electricity imports from non-RGGI sources in the PJM region could indicate emissions leakage, however, decreases in emissions rates caused the overall emissions from imports to decrease. These trends essentially produce a counteracting effect which may lead to their being no increase in emissions leakage.

### **Comment 19**

One comment received stated that the price of RGGI allowances reduced the efficiency and operating hours of Delaware's remaining coal-fired generating unit at the Indian River power plant. The comment further stated that the ultimate effect of the price of RGGI allowances will cause the plant to shut down, which could cause reliability issues. In addition, a graph was provided showing data to support this case.

### **Department Response**

The comment is based on an assessment that the Department believes does not accurately capture the state of the electricity market with respect to the operating schedule of the Indian River power plant. As explained in a previous response, power plants are dispatched for electricity generation by the grid operator based on the offer price that is submitted to the wholesale electricity market. Offer prices are submitted based on factors such as current demand, fuel prices, operating expenses, and more. Power plants, or electricity generating units that offer below the determined clearing price are dispatched. Typically, power plants with lower operating costs are able to submit the most competitive bids, since they will have less costs to make-up.

Market trends have recently favored power plants that generate electricity using natural gas over those that are coal-fired. Natural gas prices are currently at historical lows and are anticipated to remain low in the future. This trend reflects the current case in operations at the Indian River power plant. Figure 3 below expands upon the data provided in the comment. The data for the operating hours of the Indian River power plant were obtained from the RGGI CO<sub>2</sub> allowance tracking system (COATS)<sup>28</sup>. The historical price data for natural gas were obtained from the EIA<sup>29</sup>. It can be seen that the operating hours of the Indian River power plant typically rise when there is an increase in the price of natural gas and, likewise, fall when there is a decrease in the price of natural gas. This is expected since electricity generation from coal-fired plants becomes more competitive if natural gas prices rise. The operations at the Indian River power plant cannot be directly related to the CO<sub>2</sub> allowance costs when there are other market factors that can cause fluctuations.

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<sup>28</sup> RGGI, Inc. (2018). *RGGI CO<sub>2</sub> Allowance Tracking System - Reports: Quarterly Emissions*. Retrieved from [https://rggi-coats.org/eats/rggi/index.cfm?fuseaction=reportsv2.quarterly\\_emissions\\_rpt&clearfuseattribs=true](https://rggi-coats.org/eats/rggi/index.cfm?fuseaction=reportsv2.quarterly_emissions_rpt&clearfuseattribs=true)

<sup>29</sup> U.S. Energy Information Administration. (2018). *Henry Hub Natural Gas Spot Price*. Retrieved from <https://www.eia.gov/dnav/ng/hist/rngwhhdM.htm>

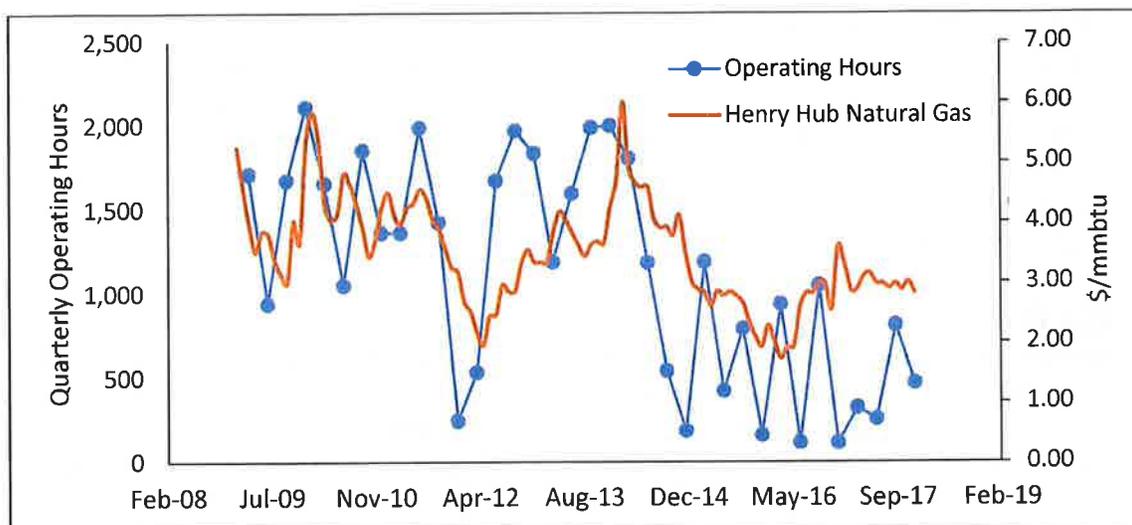


Figure 3. Quarterly operating hours at the Indian River power plant as compared to the Henry Hub spot price of natural gas

Another method to identify a trend for which types of electricity generation plants will be dispatched is to observe which plants have the current lowest short run marginal costs. In the PJM State of the Market Report for 2017, a figure is provided showing the average short run marginal costs from 2009 – 2007 (Figure 7-5, page 314)<sup>30</sup>. The figure is very similar, showing that combined cycle and combustion turbines had significantly higher costs than coal plants in the winter months (January, February) of 2014. Thus, it would be expected that coal plants would be dispatched favorably compared to natural gas plants since operation costs were lower. As natural gas began to decrease in price, operating costs for natural gas-fired plants decreased and the plants became more competitive than coal plants. This further explains the decrease in operating hours at the Indian River power plant.

As explained in previous responses, Delaware in-state electricity generation is at a 20-year high. The decrease in generation from the Indian River power plant is more than made up for from other generation sources, particularly natural gas power plants. Furthermore, the Delmarva IRP shows that grid reliability requirements have been met through 2026 for PJM. In addition, according to a recent PJM 30-day reliability study, the announced closures of 4 GW of capacity in the near future will not affect grid reliability<sup>31</sup>. If the Indian River power plant does not operate at full capacity, it would be expected that grid reliability would not suffer.

<sup>30</sup> Monitoring Analytics, LLC. (2018, March). *State of the Market Report for PJM, Volume 2: Detailed Analysis*. Retrieved from [http://www.monitoringanalytics.com/reports/PJM\\_State\\_of\\_the\\_Market/2017/2017-som-pjm-volume2.pdf](http://www.monitoringanalytics.com/reports/PJM_State_of_the_Market/2017/2017-som-pjm-volume2.pdf)

<sup>31</sup> Walton, R. (2018, October). *PJM: FirstEnergy can shut 4 GW of fossil plants without harming reliability*. Retrieved from <https://www.utilitydive.com/news/pjm-firstenergy-can-shut-4-gw-of-fossil-plants-without-harming-reliability/538618/>

### **Comment 20**

One commenter expressed concern that electricity generation by natural gas may not be enough to mitigate greenhouse gas emissions.

#### **Department Response**

The Department recognizes that there are greenhouse gas emissions associated with natural gas-fired electricity generation and agrees more efforts will be needed to meet the USCA target reduction. The proposed amendments to the CO<sub>2</sub> Budget Trading Program do not change the applicability of Delaware's regulation. Natural gas-fired plants that have a nameplate capacity of 25 MW or greater are required to comply with CO<sub>2</sub> allowances.

## **IV. Comments regarding the impact of CO<sub>2</sub> emissions**

### **Comment 21**

A few of the comments received stated that either increased CO<sub>2</sub> emissions are not harmful, or the impact of reducing CO<sub>2</sub> emissions in the State of Delaware will have a negligible impact on global CO<sub>2</sub> emissions.

#### **Department Response**

The Department believes that this comment is beyond the scope of the proposed amendments. Further, the belief that CO<sub>2</sub> emissions are not harmful or that Delaware's emissions are negligible are incorrect. Delaware's participation in the RGGI program is based upon the threat that increasing greenhouse gas emissions pose to the welfare of the state's citizens and economy. Delaware Code Title 7 §6043 states that climate change poses serious potential risks to human health and terrestrial and aquatic ecosystems and that it is in the interest of the state to take actions to stabilize and limit CO<sub>2</sub> contributions from the state.

The U.S. Environmental Protection Agency issued an endangerment finding in 2009, which states:

*"...that the current and projected concentrations of the six key well-mixed greenhouses – carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF<sub>6</sub>) – in the atmosphere threaten the public health and welfare of current and future generations<sup>32</sup>."*

Among these greenhouse gases, CO<sub>2</sub> presents the greatest risk as it is by far the most abundant, reaching 81% of all greenhouse gas emissions in 2016<sup>33</sup>.

While the greenhouse effect caused by these gases is necessary for life on the planet, the heightened concentrations accelerate this effect. This causes a rapid increase in temperature around the globe, which presents harmful effects. One such effect with direct implications on

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<sup>32</sup> U.S. Environmental Protection Agency. (2017, July). *Endangerment and Cause of Contribute Findings for Greenhouse Gases under Section 202(a) of the Clean Air Act*. Retrieved from <https://www.epa.gov/ghgemissions/endangerment-and-cause-or-contribute-findings-greenhouse-gases-under-section-202a-clean>

<sup>33</sup> U.S. Environmental Protection Agency. (2018, April). *Overview of Greenhouse Gases*. Retrieved from <https://www.epa.gov/ghgemissions/overview-greenhouse-gases>

the State of Delaware is sea level rise. Sea level rise occurs for two primary reasons: first, rise in ocean temperatures causes the water to expand; second, increases in ambient air temperatures can cause land-based glaciers and ice-caps to melt, and the resulting water runs into the ocean. At the long-term tide gauge in Lewes, the observed sea level rise trend is about 0.135 in per year, or 13.5 inches in a 100-year period<sup>34</sup>. However, with the rapid increases in concentrations of CO<sub>2</sub> and rising temperatures, sea level rise is expected to accelerate; sea levels off the coast of Delaware could rise between 1.6 feet and 4.9 feet above 2009 levels by 2100<sup>35</sup>. Furthermore, as much as 8 to 11% of land statewide could be inundated with water at high tide by 2100. This directly impacts tourism in Delaware, which depends greatly on the state's beaches that would be negatively affected by sea level rise. Tourism is an important part of Delaware's economy. In 2016, tourism generated more than \$504 million in taxes and fees for the state and local governments, which helped to avoid \$1,400 in taxes for each Delaware household<sup>36</sup>.

For further information, the Department refers to Delaware Climate Change Impact Assessment<sup>37</sup>. Additional information on the effects of climate change for Delaware are provided by the EPA's "What Climate Change Means for Delaware"<sup>38</sup>.

### **Comment 22**

One comment stated that there is no real evidence of the effects of climate change that are a result of increased CO<sub>2</sub> emissions.

#### Department Response

The Department reiterates that this rulemaking is limited to the proposed amendments to the CO<sub>2</sub> Budget Trading Program in Delaware and believes this comment is beyond this scope. Nonetheless, the Department reiterates that the rapid increase in concentration of CO<sub>2</sub> and other greenhouse gases in the atmosphere results in serious public health, economic, and environmental risks to the state, nation, and world. The International Panel on Climate Change has recently released a special report detailing the impacts of global warming of 1.5°C (2.7°F)<sup>39</sup>. Such a temperature rise presents high to very high risk for threatened systems such as warm water corals, the arctic region, coastal flooding, and more. The report concludes that if the global community does not enact "rapid and far-reaching" carbon reduction policies in the next decade, there could be irreversible damage to the climate as soon as 2040.

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<sup>34</sup> National Oceanic and Atmospheric Administration. (2018, August). *Relative Sea Level Trend Lewes, Delaware*. Retrieved from [https://tidesandcurrents.noaa.gov/sltrends/sltrends\\_station.shtml?id=8557380](https://tidesandcurrents.noaa.gov/sltrends/sltrends_station.shtml?id=8557380)

<sup>35</sup> Love, S., Arndt, T., & Ellwood, M. (2013, September). *Preparing for Tomorrow's High Tide; Recommendations for Adapting to Sea Level Rise in Delaware*. Retrieved from <http://www.dnrec.delaware.gov/coastal/Documents/SeaLevelRise/FinalAdaptationPlanPublished.pdf>

<sup>36</sup> Chesney, M. (2018, February). *Study: Delaware Tourism has another record-breaking year*. Retrieved from <https://www.visitdelaware.com/articles/post/value-of-tourism-2016/>

<sup>37</sup> Department of Natural Resources and Environmental Control. (2014, February). *Delaware Climate Change Impact Assessment*. Retrieved from [http://www.dnrec.delaware.gov/energy/Documents/Climate%20Change%202013-2014/DCCIA%20interior\\_full\\_dated.pdf](http://www.dnrec.delaware.gov/energy/Documents/Climate%20Change%202013-2014/DCCIA%20interior_full_dated.pdf)

<sup>38</sup> U.S. Environmental Protection Agency. (2016, August). *What Climate Change Means for Delaware*. Retrieved from <https://19january2017snapshot.epa.gov/sites/production/files/2016-09/documents/climate-change-de.pdf>

<sup>39</sup> International Panel on Climate Change. (2018, October). *Global Warming of 1.5 °C*. Retrieved from <http://www.ipcc.ch/report/sr15/>

The consequences of the buildup of greenhouse gases, including CO<sub>2</sub>, in the atmosphere is well documented and scientifically accepted. In Delaware, the effects will primarily be sea level rise, ocean acidification, increased temperatures, and increased heavy precipitation events. The impacts to Delaware are well documented in the 2012 Climate Change Impact Assessment report<sup>40</sup>.

## V. Comments suggesting additions to the proposed amendments

### **Comment 23**

A comment was submitted that the Department take additional steps to protect environmental justice communities and communities most directly impacted by power plant pollution within the state.

#### Department Response

The Department will continue to provide forums for robust stakeholder engagement. The effects of climate change are apparent in Delaware and can present particular hardships to those is disadvantaged communities. The Department believes continued opportunities for feedback from all Delawareans will provide guidance on how to best address environmental justice issues pertaining to power plant pollution in the state.

### **Comment 24**

A comment was submitted that the Department adopt an optional provision of the RGGI model rule regarding voluntary renewable energy (VRE) set-asides.

#### Department Response

The Sustainable Energy Utility (SEU) was created to assume primary responsibility for promoting energy efficiency and renewable energy in the state. Pursuant to §6046 (c) of Delaware Code Title 7, Chapter 60, 65% of the RGGI auction revenue is directed to fund the SEU. The SEU along with the Delaware's Renewable Portfolio Standard are adequate in achieving reductions in CO<sub>2</sub> emissions from energy efficiency projects as well as stimulating electric utilities to meet the mandated goal of 25% renewable sources for their energy portfolios by 2025. As of the 2017 SEU Annual Report, energy efficiency projects through the SEU totaled a lifetime energy savings of 465,000 MWh and lifetime cost savings of \$35.4 million<sup>41</sup>. Furthermore, from 2009 to 2017, Delaware increased renewable energy capacity – including wind, solar, and landfill gas – by 5%. Within this increase wind and solar capacity increased by a factor of nearly 20. Thus, the Department believes the SEU serves the same purpose as the VRE set-aside, and adopting the optional provision is not necessary, at this time.

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<sup>40</sup> Id 37.

<sup>41</sup> Id 16.

## **VI. Comments received at public hearing**

(A copy of the public hearing transcript is available on the RGGI page of the Department website)

### **Comment 25**

A comment was made that the base budget value in subsection 5.1.9 of the proposed amendments contained an error.

#### **Department Response**

The Department noted this error and issued an amended document of the regulation as well as an errata table detailing the adjustment. The error was a typographical error, and thus, is believed to be non-substantive. For clarity, the base budget value listed in subsection 5.1.9 of the regulation, as posted in the August edition of the Delaware Register was 2,280,690 tons. The corrected value of the base budget that has been addressed in the amended document of the regulation is 2,870,690 tons. Both versions of the regulation are available on the RGGI page of the Department website<sup>42</sup>.

### **Comment 26**

A comment was made that the Department does not have the authority to change the regulations without going to the General Assembly.

#### **Department Response**

The Department believes the amendments proposed to the CO<sub>2</sub> Budget Trading Program are within the statutes of Delaware Code Title 7, Chapter 60, subchapter II-A. §6044 (a) states:

*“The General Assembly explicitly authorizes and sanctions the prior and ongoing participation of the Secretary of the Department of Natural Resources and Environmental Control, and the Chair of the Public Service Commission, and their duly authorized representatives, as part of their official duties, to implement and participate in the Regional Greenhouse Gas Initiative (RGGI).”*

Furthermore, §6043 (a) (9) sets an initial emissions cap for Delaware and requires a minimum of 25 percent of Delaware’s allocation of CO<sub>2</sub> allowances under the cap-and-trade program to be used for public benefit purposes. It then states that “[t]he cap and Delaware’s allocation may be adjusted in the future.”

In addition, §6044 (c) authorizes the Secretary of the Department to promulgate regulations to implement the RGGI cap and trade program consistent with the RGGI Memorandum of Understanding, as amended. The Department believes that based on these sections of the Code, the Secretary of the Department has the authority by regulation to implement the amendments to the CO<sub>2</sub> budget trading program and adjust the emissions cap.

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<sup>42</sup> Department of Natural Resources and Environmental Control. (2018, October). *Regional Greenhouse Gas Initiative*. Retrieved from <http://www.dnrec.delaware.gov/Air/Pages/RegionalGreenhouseGasInitiative.aspx>

### **Comment 27**

A comment was made that CO<sub>2</sub> is not a pollutant; however, CO<sub>2</sub> is needed as it is beneficial to plant growth. The effort of Delaware to reduce CO<sub>2</sub> emissions is unnecessary when compared to global emissions, particularly those of China and India. The commenter entered a chart showing global CO<sub>2</sub> emissions trends as an exhibit to the record (available on the RGGI page of the Department website). Furthermore, the commenter noted that participation in the RGGI program is a tax increase for consumers that shows on electricity bills.

#### **Department Response**

The Department reiterates that CO<sub>2</sub> is the most abundant of six greenhouse gases included in an endangerment finding by the U.S. Environmental Protection Agency. The finding states that current and projected concentrations CO<sub>2</sub> and the other greenhouse gases threaten the public health and welfare of current and future generations.

Furthermore, the Delaware General Assembly identified in §6043 (a) (1-4) that the increased amount of greenhouse gases, particularly anthropogenic emissions, and particularly CO<sub>2</sub> enhanced the effects of climate change that pose serious potential risks to human health and ecosystems on a global, regional, and state level. The General Assembly found that “*[i]t is in the interest of the State to protect human health and terrestrial and aquatic ecosystems by taking actions to stabilize and to limit the CO<sub>2</sub> contributions from the State.*”

The Department does agree that the increase in CO<sub>2</sub> emissions is a global issue. However, in agreeance with the General Assembly findings in §6043 (a) (4), it is in the interest of the State to mitigate and limit CO<sub>2</sub> contributions from Delaware for human and environmental welfare. The Department also reiterates that the CO<sub>2</sub> budget trading program is not a tax, but a market based approach to reducing CO<sub>2</sub> emissions in the power sector. Nonetheless, the Department points to an earlier response that the participation in the RGGI program has not and will not cause increase in electricity rates. In fact, since the beginning of Delaware’s participation in the RGGI program in 2009, consumer electricity rates decreased.

### **Comment 28**

A comment was made that the State of Delaware expeditiously incorporate the proposed amendments to the regulation. The commenter also suggested that Delaware incorporate additional changes that would make the regulation more stringent, including expanding coverage of the RGGI program to groups of electricity generating units that collectively exceed a capacity of 25 MW. A copy of the comments were entered as an exhibit to the record.

#### **Department Response**

The Department appreciates the support of the proposed amendments; however, the department does not agree, at this time, that the regulation be applied to collections of smaller electricity generating units that exceed 25 MW of capacity. The purpose of the regulation has been, and remains to be, to reduce CO<sub>2</sub> emissions from fossil fuel-fired electricity generating units having a rated capacity equal to or greater than 25 MW. The 25 MW threshold applies to individual electricity generating units and not cumulative units. However, the Department will be evaluating feasible measures to reduce CO<sub>2</sub> emissions from other source categories in

the future, and may consider expansion of this program to smaller units during the next program review.

**Comment 29**

A comment was made stating that CO<sub>2</sub> may be beneficial for plant growth, but it is not beneficial for human development or health. The commenter presented examples of climate change and agreed that CO<sub>2</sub> emissions are a global issue, and that the United States should be leading efforts to reduce emissions.

**Department Response**

The Department agrees and reiterates that CO<sub>2</sub> provides harmful effects on human health and welfare, as well as harmful effects on the environment. The Department also agrees that the issue of climate change and increasing anthropogenic CO<sub>2</sub> emissions continues to have a global impact, and all entities, whether at the global, national, regional, or state level need to take action to limit their impact.

**VII. Comments in favor of the RGGI program**

**Comment 30**

Comments were received in favor of the RGGI program and the efforts to continue to reduce CO<sub>2</sub> and other greenhouse gas emissions in the State of Delaware.

**Department Response**

The Division of Air Quality appreciates the letters of support, and recommends that the Department finalize the revisions as proposed.