

December 8, 2013

This document contains final changes to 310 CMR 7.70 which will implement the program changes identified and agreed to by Regional Greenhouse Gas Initiative (RGGI) participating states as part of their 2012 Program Review.

No changes to the proposed draft regulations released for public hearing were made in response to public comments received.

This version is consistent with the 2/5/13 model rule version and edits provided by New York on 2/14/13. Additional minor technical edits may be necessary as states move through regulatory processes and identify issues.

In order to maintain consistency among the RGGI states, MassDEP is trying to minimize any changes to the proposed amendments that mirror the model rule language.

The new forest offset protocol referenced in 310 CMR 7.70(10)(b) is available at http://www.rggi.org/docs/ProgramReview/FinalProgramReviewMaterials/Forest_Protocol_FINAL.pdf.

April 1, 2013 DRAFT

7.70: Massachusetts CO₂ Budget Trading Program

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(1) CO₂ Budget Trading Program General Provisions.

(a) Purpose. 310 CMR 7.70 establishes the Massachusetts CO₂ Budget Trading Program, which is designed to stabilize and then reduce anthropogenic emissions of CO₂, a greenhouse gas, from CO₂ budget sources in an economically efficient manner.

(b) Definitions.

Account number. The identification number given by the Department or its agent to each CO₂ Allowance Tracking System account.

Acid rain emissions limitation. 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, 42 U.S.C. 7401 *et seq.*

Acid Rain Program. 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 Clean Air Act, 42 U.S.C. 7401 *et seq.* and 40 CFR Parts 72 through 78.

Administrator. Administrator means the Administrator of the United States Environmental Protection Agency or the Administrator's authorized representative.

Allocate or allocation. The determination by the Department of the number of CO₂ allowances to be recorded in the Greenhouse Gas Credit Exchange Set-aside account, the Voluntary Renewable Energy Account, or the Massachusetts Auction Account.

Allocation year. A calendar year for which the Department allocates or awards CO₂ allowances pursuant to 310 CMR 7.70(5) and (10). The allocation year is the first year a CO₂ allowance or a CO₂ offset allowance can be used to demonstrate compliance with 310 CMR 7.70. The allocation year of each CO₂ allowance is reflected in the unique identification number given to the allowance pursuant to 310 CMR 7.70(6)(d)4.

Allowance auction or auction. An auction in which DOER offers CO₂ allowances for sale, in accordance with 225 CMR 13.00.

Alternate CO₂ authorized account representative. For a CO₂ budget source and each CO₂ budget unit at the source, the natural person who is authorized by the owners and operators of the source and all CO₂ budget units at the source, in accordance with 310 CMR 7.70(2), to represent and legally bind each owner and operator in matters pertaining to the CO₂ Budget Trading Program or, for a general account, the natural person who is authorized, under 310 CMR 7.70(6), to transfer or otherwise dispose of CO₂ allowances held in the general account. If the CO₂ budget source is also subject to the CAIR NO_x Ozone Season Trading Program, CAIR NO_x Annual Trading Program, or CAIR SO₂ Trading Program then, for a CO₂ Budget Trading Program compliance account, this natural person shall be the same person as the alternate CAIR designated representative under such programs. If the CO₂ budget source is also subject to the Acid Rain Program then, for a CO₂ Budget Trading Program compliance account, this natural person shall be the same person as the alternate designated representative under the Acid Rain Program.

Automated data acquisition and handling system or DAHS. That component of the continuous emissions monitoring system, or other emissions monitoring system approved for use under 310 CMR 7.70(8), 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 310 CMR 7.70(8).

Award. The determination by the Department of the number of CO₂ allowances to be recorded in the compliance account of a CO₂ budget unit for Early Reduction CO₂ Allowances pursuant to 310 CMR 7.70(5)(c)2, or the determination by the Department of the number of CO₂ offset allowances to be recorded in the general account of a project sponsor pursuant to 310 CMR 7.70 (10)(g). Award is a type of allocation.

Billing meter. The measurement device used to measure electric or thermal output for commercial billing under a contract where the facility selling the electric or thermal

output has a different owner(s) from the owner(s) of the party purchasing the electric or thermal output.

Boiler. An enclosed fossil or other fuel-fired combustion device used to produce heat and to transfer heat to recirculating water, steam, or other medium.

CAIR NO_x 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_x 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 SO₂ 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.

CO₂ allowance. A limited authorization by the Department or a participating state under the CO₂ Budget Trading Program to emit up to one ton of CO₂, subject to all applicable limitations contained in 310 CMR 7.70 or equivalent regulations in other participating states.

CO₂ allowance deduction or deduct CO₂ allowances. The permanent withdrawal of CO₂ allowances by the Department or its agent from a CO₂ Allowance Tracking System compliance account to account for the number of tons of CO₂ emitted from a CO₂ budget source for a control period or an interim control period, determined in accordance with 310 CMR 7.70(8), or for the forfeit or retirement of CO₂ allowances as provided by 310 CMR 7.70.

CO₂ allowances held or hold CO₂ allowances. The CO₂ allowances recorded by the Department or its agent, or submitted to the Department or its agent for recordation, in accordance with 310 CMR 7.70(6) and (7), in a CO₂ Allowance Tracking System account.

CO₂ Allowance Tracking System. The system by which the Department or its agent records allocations, deductions, and transfers of CO₂ allowances under the CO₂ Budget Trading Program. The tracking system may also be used to track CO₂ emissions offset projects, CO₂ allowance prices and emissions from affected sources.

CO₂ Allowance Tracking System account. An account in the CO₂ Allowance Tracking System established by the Department or its agent for purposes of recording the allocation, holding, transferring, or deducting of CO₂ allowances.

CO₂ allowance transfer deadline. Midnight of the March 1 occurring after the end of the relevant control period and each relevant interim control period or, if that March 1 is not a business day, midnight of the first business day thereafter and is the deadline by which CO₂ allowances must be submitted for recordation in a CO₂ budget source's compliance account in order for the source to meet the CO₂ requirements under 310 CMR 7.70(1)(e)3. for the control period and each interim control period immediately preceding such deadline.

CO₂ authorized account representative. For a CO₂ budget source and each CO₂ budget unit at the source, the natural person who is authorized by the owners and operators of the source and all CO₂ budget units at the source, in accordance with 310 CMR 7.70(2), to represent and legally bind each owner and operator in matters pertaining to the CO₂ Budget Trading Program or, for a general account, the natural person who is authorized, under 310 CMR 7.70(6), to transfer or otherwise dispose of CO₂ allowances held in the general account. If the CO₂ budget source is also subject to the CAIR NO_x Ozone Season Trading Program, CAIR NO_x Annual Trading Program, or CAIR SO₂ Trading Program then, for a CO₂ Budget Trading Program compliance account, this natural person shall be the same person as the CAIR designated representative under such programs. If the CO₂ budget source is also subject to the Acid Rain Program then, for a CO₂ Budget Trading Program compliance account, this natural person shall be the same person as the designated representative under the Acid Rain Program.

CO₂ budget emissions control plan. The legally binding permit issued by the Department pursuant to 310 CMR 7.70(1)(e)1. and 310 CMR 7.70(3) to a CO₂ budget source or CO₂ budget unit which specifies the CO₂ Budget Trading Program requirements applicable to the CO₂ budget source, to each CO₂ budget unit at the CO₂ budget source, and to the owners and operators and the CO₂ authorized account representative of the CO₂ budget source and each CO₂ budget unit.

CO₂ budget emissions limitation. For a CO₂ budget source, the tonnage equivalent, in CO₂ emissions in a control period or an interim control period, of the CO₂ allowances available for compliance deduction for the source for a control period or an interim control period.

CO₂ budget source. A source that includes one or more CO₂ budget units.

CO₂ Budget Trading Program. A multi-state CO₂ air pollution control and emissions reduction program established by regulation in several states, including Massachusetts pursuant to 310 CMR 7.70, for the purpose of reducing emissions of CO₂ from CO₂ budget sources.

CO₂ budget unit. A unit that is subject to the CO₂ Budget Trading Program requirements under 310 CMR 7.70(1)(d).

CO₂ cost containment reserve allowance or CO₂ CCR allowance. A CO₂ allowance that is offered for sale at an auction by DOER for the purpose of containing the cost of CO₂ allowances. CO₂ CCR allowances offered for sale at an auction are separate from and additional to CO₂ allowances from the CO₂ Budget Trading Program base budget. CO₂ CCR allowances are subject to all applicable limitations contained in 310 CMR 7.70 or equivalent regulations in other participating states.

CO₂ equivalent. The quantity of a given greenhouse gas multiplied by its global warming potential (GWP).

CO₂ offset allowance. A CO₂ allowance that is awarded to the sponsor of a CO₂ emissions offset project pursuant to 310 CMR 7.70(10)(g) and is subject to the relevant compliance deduction limitations of 310 CMR 7.70(6)(e)1.c.

Combined cycle system. 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. 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. 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 CO₂ budget unit under 310 CMR 7.70(1)(d) 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 CO₂ budget unit under 310 CMR 7.70(1)(d) on the date the unit commences commercial operation, the date the unit becomes a CO₂ budget unit under 310 CMR 7.70(1)(d) shall be the unit's date of commencement of commercial operation.

Commence operation. To begin any mechanical, chemical, or electronic process, including, with regard to a unit, startup of a unit's combustion chamber. For a unit that is a CO₂ budget unit under 310 CMR 7.70(1)(d) 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 CO₂ budget unit under 310 CMR 7.70(1)(d) on the date of commencement of operation, the date the unit becomes a CO₂ budget unit under 310 CMR 7.70(1)(d) shall be the unit's date of commencement of operation

Compliance account. A CO₂ Allowance Tracking System account, established by the Department or its agent for a CO₂ budget source under 310 CMR 7.70(6), in which are held CO₂ allowances available for use by the source for a control period and each interim control period for the purpose of meeting the CO₂ requirements of 310 CMR 7.70(1)(e)3.

Continuous emissions monitoring system or CEMS. The equipment required under 310 CMR 7.70(8) 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 Part 75 and 310 CMR 7.70(8).

Control period. The control period is 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 each defined as an interim control period, beginning in January 1, 2015.

Department. The Massachusetts Department of Environmental Protection (pursuant to St. 1989 c. 240, § 101, "...the department of environmental quality engineering shall be known as the department of environmental protection").

Eligible biomass. 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, and biogas derived from such fuel sources. Liquid biofuels do not qualify as eligible biomass. Sustainably harvested shall be determined by the Department.

Excess emissions. Any tonnage of CO₂ emitted by a CO₂ budget source during a control period that exceeds the CO₂ budget emissions limitation for the source.

Excess interim emissions. Any tonnage of CO₂ emitted by a CO₂ budget sources during an interim control period multiplied by 0.50 that exceeds the CO₂ budget emissions limitation for the source.

First control period interim adjustment for banked allowances. An adjustment applied to the CO₂ 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 310 CMR 7.70(6), but not including accounts opened by participating states, that are in addition to the aggregate quality of first control period CO₂ emissions from all CO₂ budget sources in all of the participating states.

Fossil fuel. Natural gas, petroleum, coal, or any form of solid, liquid, or gaseous fuel derived from such material.

Fossil fuel-fired.

1. With regard to a unit that commenced 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.

General account. A CO₂ Allowance Tracking System account, established under 310 CMR 7.70(6), that is not a compliance account.

Global warming potential (GWP). A measure of the radiative efficiency (heat-absorbing ability) of a particular gas relative to that of carbon dioxide (CO₂) 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 CO₂. Global warming potentials used in this Part are consistent with the values used in the Intergovernmental Panel on Climate Change, 2007 Fourth Assessment Report.

Gross generation. The electrical output (in MWe) at the terminals of the generator.

Interim control period. 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. 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 years, including contracts that permit an election for early termination; or,
3. For a period equal to or greater than either 20 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.

Massachusetts CO₂ Budget Trading Program adjusted budget. The Massachusetts CO₂ Budget Trading Program adjusted budget is determined in accordance with 310 CMR 7.70 (5)(c)2. CO₂ offset allowances allocated to project sponsors and CO₂ CCR allowances offered for sale at an auction are separate from and additional to CO₂ allowances allocated from the Massachusetts CO₂ Budget Trading Program adjusted budget.

Massachusetts CO₂ Budget Trading Program base budget. The Massachusetts CO₂ Budget Trading Program base budget is specified in 310 CMR 7.71(5)(a). CO₂ offset allowances awarded pursuant to 310 CMR 7.70(10) and CO₂ CCR Allowances offered for sale at auction are separate from and additional to CO₂ allowances allocated from the Massachusetts CO₂ Budget Trading Program base budget.

Massachusetts Department of Energy Resources or DOER. The Massachusetts agency established pursuant to M.G.L. c. 25A, sections 1-13.

Massachusetts Auction Account. An account administered by DOER for purposes of auctioning CO₂ allowances.

Maximum design heat input. 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. 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 Part 75 to report heat input, this value should be calculated, in accordance with 40 CFR Part 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 Part 75, using the maximum potential flowrate and either the maximum carbon dioxide concentration (in percent CO₂) or the minimum oxygen concentration (in percent O₂).

Monitoring system. Any monitoring system that meets the requirements of 310 CMR 7.70(8), including a continuous emissions monitoring system, an excepted monitoring system, or an alternative monitoring system.

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

Non-CO₂ budget unit. A unit that does not meet the applicability criteria of 310 CMR 7.70(1)(d).

Operator. Any person who operates, controls, or supervises a CO₂ budget unit or a CO₂ 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. Any of the following persons:

1. Any holder of any portion of the legal or equitable title in a CO₂ budget unit; or
2. Any holder of a leasehold interest in a CO₂ 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 CO₂ budget unit; or,
3. Any purchaser of power from a CO₂ 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 CO₂ allowances held in the general account and who is subject to the binding agreement for the CO₂ authorized account representative to represent that person's ownership interest with respect to the CO₂ allowances.

Participating state. A state that is a member of the CO₂ Budget Trading Program and has promulgated a regulation consistent with 310 CMR 7.70.

Receive or receipt of. 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. With regard to CO₂ allowances, the movement of CO₂ allowances by the Department or its agent from one CO₂ Allowance Tracking System account to another.

Second control period interim adjustment for banked allowances. An adjustment applied to the Massachusetts CO₂ Budget Trading Program base budget for allocation years 2015 through 2020 to address the allocation year 2012 and 2013 allowances held in general and compliance accounts, including compliance accounts established pursuant to the CO₂ Budget Trading Program, but not including accounts opened by participating states, that are in addition to the aggregate quantity of 2012 and 2013 emissions from all CO₂ budget sources in all of the participating states.

Serial number. When referring to CO₂ allowances, the unique identification number assigned to each CO₂ allowance by the Department or its agent under 310 CMR 7.70(6)(d)4.

Source. 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. A U.S. 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.

Submit or serve. 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.

Ton or tonnage. Any “short ton,” or 2,000 pounds. For the purpose of determining compliance with the CO₂ requirements of 310 CMR 7.70(1)(e)3., 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 310 CMR 7.70(8), 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.

Unit. A fossil fuel-fired stationary boiler, combustion turbine, or combined cycle system.

Unit operating day. A calendar day in which a unit combusts any fuel.

Undistributed CO₂ allowances. CO₂ allowances originally allocated to a set aside account pursuant to 310 CMR 7.70(5)(c) that were not distributed.

Unsold CO₂ allowances. CO₂ allowances that have been made available for sale in an auction conducted by DOER, but not sold.

Voluntary renewable energy account. An account established for the purpose of retiring allowances pursuant to 310 CMR 7.7(5)(c)1.b.iii.

(c) Measurements, abbreviations and acronyms. Measurements, abbreviations, and acronyms used in 310 CMR 7.70 are defined as follows:

1. CO₂ – carbon dioxide.
2. g – grams.
3. hr – hour.
4. lb – pounds.
5. mol – mole. 1 mole = 6.022×10^{23} molecules.
6. MWe – megawatt electrical.
7. scf – standard cubic feet.

(d) Applicability. Any unit that, at any time on or after January 1, 2005, serves an electricity generator with a nameplate capacity equal to or greater than 25 MWe shall be a CO₂ budget unit, and any source that includes one or more such units shall be a CO₂ budget source, subject to the requirements of 310 CMR 7.70.

(e) Standard requirements.

1. CO₂ budget emission control plan requirements.
 - a. The CO₂ authorized account representative of each CO₂ budget source shall:
 - i. Submit to the Department a complete CO₂ budget emission control plan under 310 CMR 7.70(3)(c) in accordance with the deadlines specified in 310 CMR 7.70(3)(b); and,
 - ii. Submit in a timely manner any supplemental information that the Department determines is necessary in order to review and approve or deny the CO₂ budget emission control plan.
 - b. The owners and operators of each CO₂ budget source and each CO₂ budget unit for the source shall have an approved CO₂ budget emission control plan and operate the CO₂ budget source and the CO₂ budget unit at the source in compliance with such approved CO₂ budget emission control plan.
2. Monitoring requirements.
 - a. The owners and operators and, to the extent applicable, the CO₂ authorized account representative of each CO₂ budget source and each CO₂ budget unit at the source shall comply with the monitoring requirements of 310 CMR 7.70(8).
 - b. The emissions measurements recorded and reported in accordance with 310 CMR 7.70(8) shall be used to determine compliance by the unit with the CO₂ requirements of 310 CMR 7.70(1)(e)3.
3. CO₂ requirements.
 - a. The owners and operators of each CO₂ budget source and each CO₂ budget unit at the source shall hold CO₂ allowances available for compliance deductions

- under 310 CMR 7.70(6)(e), as of the CO₂ allowance transfer deadline, in the source's compliance account in an amount not less than the total CO₂ emissions for the control period from all CO₂ budget units at the source, minus the CO₂ allowances deducted to meet the requirements of 310 CMR 7.70(1)(e)3.b., as determined in accordance with 310 CMR 7.70(6) and (8).
- b. The owners and operators of each CO₂ budget source and each CO₂ budget unit at the source shall hold CO₂ allowances available for compliance deductions under 310 CMR 7.70(6)(e), as of the CO₂ allowance transfer deadline, in the CO₂ budget source's compliance account in an amount not less than the total CO₂ emissions for the interim control period from all CO₂ budget units at the CO₂ budget source multiplied by 0.50, as determined in accordance with 310 CMR 7.70(6) and (8).
- c. Each ton of CO₂ emitted in excess of the CO₂ budget emissions limitation for a control period shall constitute a separate violation of 310 CMR 7.70 and applicable state law.
- d. Each ton of excess interim emissions shall constitute a separate violation of 310 CMR 7.70 and applicable state law.
- e. A CO₂ budget unit shall be subject to the requirements under 310 CMR 7.70(1)(e)3.a. on January 1, 2009 or the date on which the unit commences operation, whichever comes later.
- f. CO₂ allowances shall be held in, deducted from, or transferred among CO₂ Allowance Tracking System accounts in accordance with 310 CMR 7.70(5), (6), and (7), and 310 CMR 7.70(10)(g).
- g. A CO₂ allowance shall not be deducted in order to comply with the requirements under 310 CMR 7.70(1)(e)3.a. and 3.b. for a control period or interim control period that ends prior to the year for which the CO₂ allowance was allocated. A CO₂ offset allowance shall not be deducted in order to comply with the requirements under 310 CMR 7.70(1)(e)3.a. beyond the applicable percent limitations set out in 310 CMR 7.70(6)(e)1.c.
- h. A CO₂ allowance under the CO₂ Budget Trading Program is a limited authorization by the Department or a participating state to emit one ton of CO₂ in accordance with the CO₂ Budget Trading Program. No provision of the CO₂ Budget Trading Program, the application for a CO₂ budget emissions control plan, or the approved CO₂ budget emissions control plan, or any provision of law shall be construed to limit the authority of the State to terminate or limit such authorization.
- i. A CO₂ allowance under the CO₂ Budget Trading Program does not constitute a property right.
4. Excess emissions requirements. The owners and operators of a CO₂ budget source that has excess emissions in any control period or excess interim emissions in any interim control period shall:
- Forfeit the CO₂ allowances required for deduction under 310 CMR 7.70(6)(e)4.a., provided CO₂ offset allowances may not be used to cover any part of such excess emissions; and,
 - Pay any fine, penalty, or assessment or comply with any other remedy imposed under 310 CMR 7.70(6)(e)4.b.
5. Recordkeeping and reporting requirements.
- Unless otherwise provided, the owners and operators of the CO₂ budget source and each CO₂ 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.

- i. The account certificate of representation for the CO₂ authorized account representative for the source and each CO₂ budget unit at the source and all documents that demonstrate the truth of the statements in the account certificate of representation, in accordance with 310 CMR 7.70(2)(d), 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 CO₂ authorized account representative.
 - ii. All emissions monitoring information, in accordance with 310 CMR 7.70(8) and 40 CFR 75.57.
 - iii. Copies of all reports, compliance certifications, and other submissions and all records made or required under the CO₂ Budget Trading Program.
 - iv. Copies of all documents used to complete an application for a CO₂ budget emissions control plan and any other submission under the CO₂ Budget Trading Program or to demonstrate compliance with the requirements of the CO₂ Budget Trading Program.
- b. The CO₂ authorized account representative of a CO₂ budget source and each CO₂ budget unit at the source shall submit the reports and compliance certifications required under the CO₂ Budget Trading Program, including those under 310 CMR 7.70(4).

6. Liability.

- a. No revision to a CO₂ budget emissions control plan shall excuse any violation of the requirements of the CO₂ Budget Trading Program that occurs prior to the date that the revision takes effect.
- b. Any provision of the CO₂ Budget Trading Program that applies to a CO₂ budget source (including a provision applicable to the CO₂ authorized account representative of a CO₂ budget source) shall also apply to the owners and operators of such source and of the CO₂ budget units at the source.
- c. Any provision of the CO₂ Budget Trading Program that applies to a CO₂ budget unit (including a provision applicable to the CO₂ authorized account representative of a CO₂ budget unit) shall also apply to the owners and operators of such unit.

7. Effect on other authorities.

- a. No provision of the CO₂ Budget Trading Program, a CO₂ budget emissions control plan application, or an approved CO₂ budget emissions control plan, shall be construed as exempting or excluding the owners and operators and, to the extent applicable, the CO₂ authorized account representative of a CO₂ budget source or CO₂ budget unit from compliance with any other provisions of applicable State and federal law and regulations.

(f) Computation of time.

1. Unless otherwise stated, any time period scheduled under the CO₂ Budget Trading Program to begin on the occurrence of an act or event shall begin on the day the act or event occurs.
2. Unless otherwise stated, any time period scheduled under the CO₂ 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.

3. Unless otherwise stated, if the final day of any time period under the CO₂ Budget Trading Program falls on a weekend or a Massachusetts or Federal holiday, the time period shall be extended to the next business day.

(g) Severability. If any provision of 310 CMR 7.70, or its application to any particular person or circumstances, is held invalid, the remainder of 310 CMR 7.70, and the application thereof to other persons or circumstances, shall not be affected thereby.

(2) CO₂ Authorized Account Representative for CO₂ Budget Sources.

(a) Authorization and responsibilities of the CO₂ authorized account representative.

1. Except as provided under 310 CMR 7.70(2)(b), each CO₂ budget source, including all CO₂ budget units at the source, shall have one and only one CO₂ authorized account representative, with regard to all matters under the CO₂ Budget Trading Program concerning the source or any CO₂ budget unit at the source.

2. The CO₂ authorized account representative of the CO₂ budget source shall be selected by an agreement binding on the owners and operators of the source and all CO₂ budget units at the source.

3. Upon receipt by the Department or its agent of a complete account certificate of representation under 310 CMR 7.70(2)(d), the CO₂ 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 CO₂ budget source represented and each CO₂ budget unit at the source in all matters pertaining to the CO₂ Budget Trading Program, notwithstanding any agreement between the CO₂ authorized account representative and such owners and operators. The owners and operators shall be bound by any decision or order issued to the CO₂ authorized account representative by the Department or a court regarding the source or unit.

4. No CO₂ budget emissions control plan shall be issued, and no CO₂ Allowance Tracking System account shall be established for a CO₂ budget source, until the Department or its agent has received a complete account certificate of representation under 310 CMR 7.70(2)(d) for a CO₂ authorized account representative of the source and the CO₂ budget units at the source.

5. Each submission under the CO₂ Budget Trading Program shall be submitted, signed, and certified by the CO₂ authorized account representative for each CO₂ budget source on behalf of which the submission is made. Each such submission shall include the following certification statement by the CO₂ authorized account representative: "I am authorized to make this submission on behalf of the owners and operators of the CO₂ budget sources or CO₂ 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."

6. The Department or its agent shall accept or act on a submission made on behalf of owners or operators of a CO₂ budget source or a CO₂ budget unit only if the submission has been made, signed, and certified in accordance with 310 CMR 7.70(2)(a)5.

(b) Alternate CO₂ authorized account representative.

1. An account certificate of representation may designate one and only one alternate CO₂ authorized account representative who may act on behalf of the CO₂ authorized account representative. The agreement by which the alternate CO₂ authorized account representative is selected shall include a procedure for authorizing the alternate CO₂ authorized account representative to act in lieu of the CO₂ authorized account representative.
2. Upon receipt by the Department or its agent of a complete account certificate of representation under 310 CMR 7.70(2)(d), any representation, action, inaction, or submission by the alternate CO₂ authorized account representative shall be deemed to be a representation, action, inaction, or submission by the CO₂ authorized account representative.
3. Except in 310 CMR 7.70(2)(b) and 310 CMR 7.70(2)(a)1., (2)(c), (2)(d), and (6)(b), whenever the term “CO₂ authorized account representative” is used in 310 CMR 7.70, the term shall be construed to include the alternate CO₂ authorized account representative.

(c) Changing the CO₂ authorized account representative and the alternate CO₂ authorized account representative; changes in the owners and operators.

1. Changing the CO₂ authorized account representative. The CO₂ 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 310 CMR 7.70(2)(d). Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous CO₂ authorized account representative or alternate CO₂ authorized 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 CO₂ authorized account representative and the owners and operators of the CO₂ budget source and the CO₂ budget units at the source.
2. Changing the alternate CO₂ authorized account representative. The alternate CO₂ 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 310 CMR 7.70(2)(d). Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous CO₂ authorized account representative or alternate CO₂ authorized 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 CO₂ authorized account representative and the owners and operators of the CO₂ budget source and the CO₂ budget units at the source.
3. Changes in the owners and operators.
 - a. In the event a new owner or operator of a CO₂ budget source or a CO₂ 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 CO₂ authorized account representative and any alternate CO₂ authorized 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.
 - b. Within 30 days following any change in the owners and operators of a CO₂ budget source or a CO₂ budget unit, including the addition of a new owner or operator, the CO₂ authorized account representative or alternate CO₂ authorized

account representative shall submit a revision to the account certificate of representation amending the list of owners and operators to include the change.

(d) Account certificate of representation.

1. A complete account certificate of representation for a CO₂ authorized account representative or an alternate CO₂ authorized account representative shall include the following elements in a format prescribed by the Department or its agent:
 - a. Identification of the CO₂ budget source and each CO₂ budget unit at the source for which the account certificate of representation is submitted;
 - b. The name, address, email address, telephone number, and facsimile transmission number of the CO₂ authorized account representative and any alternate CO₂ authorized account representative;
 - c. A list of the owners and operators of the CO₂ budget source and of each CO₂ budget unit at the source;
 - d. The following certification statement by the CO₂ authorized account representative and any alternate CO₂ authorized account representative: “I certify that I was selected as the CO₂ authorized account representative or alternate CO₂ authorized account representative, as applicable, by an agreement binding on the owners and operators of the CO₂ budget source and each CO₂ budget unit at the source. I certify that I have all the necessary authority to carry out my duties and responsibilities under the CO₂ Budget Trading Program on behalf of the owners and operators of the CO₂ budget source and of each CO₂ 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,
 - e. The signature of the CO₂ authorized account representative and any alternate CO₂ authorized account representative and the dates signed.
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, whether or not submitted.

(e) Objections concerning the CO₂ authorized account representative.

1. Once a complete account certificate of representation under 310 CMR 7.70(2)(d) has been submitted and received, the Department and its agent shall rely on the account certificate of representation unless and until the Department or its agent receives a superseding complete account certificate of representation under 310 CMR 7.70(2)(d).
2. Except as provided in 310 CMR 7.70(2)(c)1. or 2., no objection or other communication submitted to the Department or its agent concerning the authorization, or any representation, action, inaction, or submission of the CO₂ authorized account representative shall affect any representation, action, inaction, or submission of the CO₂ authorized account representative or the finality of any decision or order by the Department or its agent under the CO₂ Budget Trading Program.
3. Neither the Department nor its agent shall adjudicate any private legal dispute concerning the authorization or any representation, action, inaction, or submission of any CO₂ authorized account representative, including private legal disputes concerning the proceeds of CO₂ allowance transfers.

(f) Delegation by CO₂ authorized account representative and alternate CO₂ authorized account representative.

1. A CO₂ 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 310 CMR 7.70.
2. An alternate CO₂ 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 310 CMR 7.70.
3. In order to delegate authority to make an electronic submission to the Department or its agent in accordance with 310 CMR 7.70(2)(f)1. and 2., the CO₂ authorized account representative or alternate CO₂ authorized account representative, as appropriate, shall submit to the Department or its agent a notice of delegation, in a format prescribed by the Department that includes the following elements:
 - a. The name, address, email address, telephone number, and facsimile transmission number of such CO₂ authorized account representative or alternate CO₂ authorized account representative;
 - b. The name, address, email address, telephone number and facsimile transmission number of each such natural person, herein referred to as the “electronic submission agent”;
 - c. For each such natural person, a list of the type of electronic submissions under 310 CMR 7.70(2)(f)1. and 2. for which authority is delegated to him or her; and,
 - d. The following certification statements by such CO₂ authorized account representative or alternate CO₂ authorized account representative:
 - i. “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 CO₂ authorized account representative or alternate CO₂ authorized account representative, as appropriate, and before this notice of delegation is superseded by another notice of delegation under 310 CMR 7.70(2)(f)4. shall be deemed to be an electronic submission by me.”
 - ii. “Until this notice of delegation is superseded by another notice of delegation under 310 CMR 7.70(2)(f)4., I agree to maintain an email account and to notify the Department or its agent immediately of any change in my email address unless all delegation authority by me under 310 CMR 7.70(2)(f) is terminated.”
4. A notice of delegation submitted under 310 CMR 7.70(2)(f)3. shall be effective, with regard to the CO₂ authorized account representative or alternate CO₂ authorized 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 CO₂ authorized account representative or alternate CO₂ authorized 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.
5. Any electronic submission covered by the certification in 310 CMR 7.70(2)(f)3.d.i. and made in accordance with a notice of delegation effective under 310 CMR 7.70(2)(f)4. shall be deemed to be an electronic submission by the CO₂ authorized account representative or alternate CO₂ authorized account representative submitting such notice of delegation.

(3) CO₂ Budget Emission Control Plan Requirements.

(a) General CO₂ budget emission control plan requirements. Each CO₂ budget source shall have an approved CO₂ budget emission control plan issued by the Department pursuant to 310 CMR 7.70(1)(e)1. that contains all applicable CO₂ Budget Trading Program requirements under 310 CMR 7.70(3)(c). CO₂ budget sources shall comply with the approved CO₂ budget emission control plan.

(b) Submission of CO₂ budget emission control plan. For any CO₂ budget source, the CO₂ authorized account representative shall submit a complete CO₂ budget emission control plan under 310 CMR 7.70(3)(c) covering such CO₂ budget source to the Department on or before August 1, 2008 or 12 months before the date on which the CO₂ budget source, or a new unit at the source, commences operation, whichever is later.

(c) CO₂ budget emission control plan contents. A complete CO₂ budget emission control plan shall include the following elements concerning the CO₂ budget source in a format prescribed by the Department:

1. Identification of the CO₂ 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;
2. Identification of each CO₂ budget unit at the CO₂ budget source;
3. A compliance account identification number for each CO₂ budget source;
4. For CO₂ budget sources subject to 40 CFR Part 72, a statement that the CO₂ budget unit has a monitoring plan in place that meets the requirements of 310 CMR 7.70(8). Any modification to a CO₂ budget unit's monitoring methodology approved pursuant to the requirements of 40 CFR Part 72, and meeting the requirements of 310 CMR 7.70(8), are hereby incorporated into the approved emission control plan under 310 CMR 7.70;
5. For CO₂ budget sources not subject to 40 CFR Part 72, a detailed monitoring plan that meets the requirements of 310 CMR 7.70(8);
6. For CO₂ budget sources that have an approved output monitoring plan pursuant to 310 CMR 7.28 or 310 CMR 7.32, a statement that the CO₂ budget sources have an output monitoring plan that meets the requirements in 310 CMR 7.70(8);
7. For CO₂ budget sources that do not have an approved output monitoring plan pursuant to 310 CMR 7.28 or 310 CMR 7.32, a detailed output monitoring plan that meets the requirements of 310 CMR 7.70(8);
8. The standard requirements under 310 CMR 7.70(1)(e); and,
9. Any other information requested by the Department.

(d) Approval of emission control plans. After reviewing the proposed emissions control plan, the Department shall:

1. Issue a proposed disapproval of the emission control plan, a proposed approval of the emissions control plan, or a proposed approval of the emission control plan with conditions, based on whether the emission control plan as submitted meets the requirements of 310 CMR 7.70;
2. Notify the public of the Department's proposed action by publishing a notice in the Environmental Monitor;
3. Make available on its website all related materials;
4. Allow not less than 21 days for public comment;
5. Make all comments available for public inspection; and,

6. Notify the applicant and publish on the Department's website the final approval of the emission control plan, the final approval of the emission control plan with conditions, or a disapproval of the emission control plan.
- (e) Emission control plan approvals issued to a CO₂ budget source that changes ownership are binding upon the new owner.
- (f) Revisions to CO₂ budget emission control plans.
1. At any time, the Department may require a CO₂ budget source to submit a revision to its CO₂ budget emission control plan.
 2. If the CO₂ budget source required to submit a detailed monitoring plan pursuant to 310 CMR 7.70(3)(c)5. or 7. proposes a change in the monitoring methodology, then that CO₂ budget source shall submit a revised monitoring plan to the Department and obtain approval by the Department prior to making the modification. The Department will modify the emission control plan upon approval of the revised monitoring plan.
 3. At any time, a CO₂ budget source may propose a change to its CO₂ budget emissions control plan.
- (g) Operating Permits. If the CO₂ budget source is required to have an Operating Permit under 310 CMR 7.00: Appendix C, such Operating Permit shall be modified in accordance with the procedures in 310 CMR 7.00: Appendix C(8).
- (4) Compliance Certification.
- (a) Compliance certification report.
1. Applicability and deadline. For each control period in which a CO₂ budget source is subject to the CO₂ requirements of 310 CMR 7.70(1)(e)3., the CO₂ 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.
 2. Contents of report. The CO₂ authorized account representative shall include in the compliance certification report under 310 CMR 7.70(4)(a)1. the following elements, in a format prescribed by the Department:
 - a. Identification of the source and each CO₂ budget unit at the source;
 - b. At the CO₂ authorized account representative's option, the serial numbers of the CO₂ allowances that are to be deducted from the source's compliance account under 310 CMR 7.70(6)(e) for the control period, including the serial numbers of any CO₂ offset allowances that are to be deducted subject to the limitations of 310 CMR 7.70(6)(e)1.c.; and
 - c. The compliance certification under 310 CMR 7.70(4)(a)3.
 3. Compliance certification. In the compliance certification report under 310 CMR 7.70(4)(a)1., the CO₂ authorized account representative shall certify, based on reasonable inquiry of those persons with primary responsibility for operating the source and the CO₂ budget units at the source in compliance with the CO₂ Budget Trading Program, whether the source and each CO₂ 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 CO₂ Budget Trading Program, including:
 - a. Whether the source was operated in compliance with the CO₂ requirements of 310 CMR 7.70(1)(e)3.;

- b. 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 CO₂ emissions to the unit, in accordance with 310 CMR 7.70(8);
- c. Whether all the CO₂ 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 310 CMR 7.70(8). 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;
- d. Whether the facts that form the basis for certification under 310 CMR 7.70(8) of each monitor at each unit at the source, or for using an excepted monitoring method or alternative monitoring method approved under 310 CMR 7.70(8), if any, have changed; and,
- e. If a change is required to be reported under 310 CMR 7.70(4)(a)3.d., 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.

(b) Department's action on compliance certifications.

- 1. The Department or its agent may review and conduct independent audits concerning any compliance certification or any other submission under the CO₂ Budget Trading Program and make appropriate adjustments to the information in the compliance certifications or other submissions.
- 2. The Department or its agent may deduct CO₂ allowances from or transfer CO₂ allowances to a source's compliance account based on the information in the compliance certifications or other submissions, as adjusted under 310 CMR 7.70(4)(b)1.

(5) CO₂ Allowance Allocations.

(a) Massachusetts CO₂ Budget Trading Program base budget.

- 1. For 2014, the Massachusetts CO₂ Budget Trading Program base budget is 14,487,106 tons.
- 2. For 2015, the Massachusetts CO₂ Budget Trading Program base budget is 14,124,929 tons.
- 3. For 2016, the Massachusetts CO₂ Budget Trading Program base budget is 13,771,805 tons.
- 4. For 2017, the Massachusetts CO₂ Budget Trading Program base budget is 13,612,882 tons.
- 5. For 2018, the Massachusetts CO₂ Budget Trading Program base budget is 13,272,560 tons.
- 6. For 2019, the Massachusetts CO₂ Budget Trading Program base budget is 12,940,746 tons.
- 7. For 2020, and each succeeding calendar year, the Massachusetts CO₂ Budget Trading Program base budget is 12,617,227 tons.

(b) Timing requirements for CO₂ allowance allocations.

- 1. On or before January 1, 2014, the Department shall allocate CO₂ allowances under 310 CMR 7.70(5)(c)1.c. for the 2014, 2015, 2016, and 2017 allocation years.

2. On or before January 1, 2015 and January 1 of each year thereafter, the Department shall allocate CO₂ allowances under 310 CMR 7.70(5)(c)1.c. for the allocation year that commences in the year that is three years after the applicable deadline for allocation under 310 CMR 7.70(5)(b)2.
 3. On or before January 1, 2011 and January 1 of each year thereafter, the Department shall allocate CO₂ allowances under 310 CMR 7.70(5)(c)1.b. for the allocation year that commences in the year that is three years after the applicable deadline for allocation under 310 CMR 7.70(5)(b)3.
 4. On or after December 31, 2013, any remaining CO₂ allowances in the Greenhouse Gas Credit Exchange Set-aside shall be retired pursuant to 310 CMR 7.70(5)(c)4.
- (c) CO₂ allowance allocations.

1. General allocations.

a. Greenhouse Gas Credit Exchange Set-aside.

- i. The Department shall establish a Greenhouse Gas Credit Exchange Set-aside.
- ii. The Department shall allocate to the Greenhouse Gas Credit Exchange Set-aside a sufficient number of CO₂ allowances from the Massachusetts CO₂ Budget Trading Program annual base budget, as set forth in 310 CMR 7.70(5)(a), to enable the Department to allocate CO₂ allowances pursuant to 310 CMR 7.00: Appendix B(7)(h).

b. Voluntary Renewable Energy (VRE) Account.

- i. The Department shall establish a retirement account to address the voluntary purchase of Massachusetts RPS-eligible Renewable Energy Certificates by retail customers in Massachusetts. CO₂ allowances transferred into this account cannot be removed, unless they are transferred in error.
- ii. Beginning in 2010, DOER will submit to the Department a report, certified by DOER, documenting:
 - (i) The number of Massachusetts RPS-eligible Renewable Energy Certificates purchased voluntarily by retail customers in Massachusetts in the preceding year, in MWh;
 - (ii) The annual average CO₂ emission rate for electricity generation, in lbs. CO₂/MWh as provided in the most recently available version of the *ISO New England Electric Generator Air Emissions Report* published annually by the Independent System Operator of New England;
 - (iii) The total number of CO₂ allowances to be retired for such voluntary purchases in Massachusetts of said Massachusetts RPS-eligible Renewable Energy Certificates; and,
 - (iv) All calculations used to determine the amount referenced in 310 CMR 7.70(5)(c)1.b.ii.(iii).

iii. After review of the certified report submitted to the Department pursuant to 310 CMR 7.70(5)(c)1.b.ii., the Department will allocate to the VRE Account the number of CO₂ allowances reported pursuant to 310 CMR 7.70(5)(c)1.b.ii., or 200,000 CO₂ allowances, whichever is fewer.

iv. The Department will periodically review provisions related to the VRE Account in consultation with DOER.

c. Massachusetts Auction Account.

- i. The Department shall establish a Massachusetts Auction Account.
- ii. The Department shall allocate all CO₂ allowances not allocated under 310 CMR 7.70(5)(c)1.a. or b. to the Massachusetts Auction Account.

d. On or after December 31, 2013, any remaining CO₂ allowances in the Greenhouse Gas Credit Exchange Set-aside shall be retired pursuant to 310 CMR 7.70(5)(c)4.

e. CO₂ allowances available for allocation. For allocation years 2014 through 2020, the Massachusetts CO₂ Budget Trading Program adjusted budget shall be the maximum number of allowances available for allocation in a given allocation year, except for CO₂ offset allowances and CO₂ CCR allowances.

2. Determination of 2014 – 2020 adjusted budgets.

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

$$\text{FCPIABA} = (\text{FCPA}/7) \times \text{RS}\%$$

Where:

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

FCPA is the total quantity of allocation year 2009, 2010, and 2011 CO₂ allowances held in general and compliance accounts, including compliance accounts established pursuant to the CO₂ Budget Trading Program, but not including accounts opened by participating states, as reflected in the CO₂ Allowance Tracking System on January 1, 2014.

RS% is 26,660,204/165,184,246.

b. Second control period interim adjustment for banked allowances. On March 15, 2014, the Department shall determine the second control period interim adjustment for banked allowances quantity for allocation years 2015 through 2020 by the following formula:

$$\text{SCPIABA} = ((\text{SCPA} - \text{SCPE})/6) \times \text{RS}\%$$

Where:

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

SCPA is the total quantity of allocation year 2012 and 2013 CO₂ allowances held in general and compliance accounts, including compliance accounts established pursuant to the CO₂ Budget Trading Program, but not including accounts opened by participating states, as reflected in the CO₂ Allowance Tracking System on March 15, 2014.

SCPE is the total quantity of 2012 and 2013 emissions from all CO₂ budget sources in all participating states, reported pursuant to CO₂ Budget Trading Program as reflected in the CO₂ Allowance Tracking System on March 15, 2014.

RS% is 26,660,204/165,184,246.

c. CO₂ Budget Trading Program adjusted budget for 2014. The Department shall determine the Massachusetts CO₂ Budget Trading Program adjusted budget for allocation year 2014 by the following formula:

$$AB = BB - FCPIABA$$

Where:

AB is the Massachusetts CO₂ Budget Trading Program 2014 adjusted budget.

BB is the Massachusetts CO₂ Budget Trading Program 2014 base budget.

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

d. CO₂ Budget Trading Program adjusted budgets for 2015 through 2020. On April 15, 2014 the Department shall determine the Massachusetts CO₂ Budget Trading Program adjusted budgets for allocation years 2015 through 2020 by the following formula:

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

Where:

AB is the Massachusetts CO₂ Budget Trading Program adjusted budget.

BB is the Massachusetts CO₂ 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.

e. After making the determinations in 310 CMR 7.70(5)(c)2.c. and d., the Department or its agent will publish the CO₂ trading program adjusted base budgets for the 2014 through 2020 allocation years.

3. Cost Containment Reserve (CCR) allocation. The Department shall allocate CO₂ CCR allowances, separate from and additional to, the Massachusetts CO₂ Budget Trading Program base budget set forth in 310 CMR 7.70(5)(a), to the Massachusetts Auction Account. The CCR allocation is for the purpose of containing the cost of CO₂ allowances. The Department shall allocate CO₂ CCR allowances in the following manner:

a. The Department shall initially allocate 806,984 CO₂ CCR allowances for calendar year 2014.

b. On or before January 1, 2015 and of each calendar year thereafter, the Department shall allocate CO₂ CCR allowances in an amount equal to 1,613,968, minus the number of CO₂ CCR allowances that remain in the Massachusetts Auction Account at the end of the prior calendar year.

- c. After all of the CO₂ CCR allowances in the Massachusetts Auction Account have been sold in a given calendar year, no additional CO₂ CCR allowances will be transferred into the Massachusetts Auction Account.
4. Undistributed and unsold CO₂ allowances.
 - a. The Department or DOER may retire undistributed CO₂ allowances at the end of each control period.
 - b. The Department or DOER may retire unsold CO₂ allowances at the end of each control period.
 - c. The Department may create one or more retirement accounts in the CO₂ Allowance Tracking System for the purpose of retiring CO₂ allowances. CO₂ allowances transferred into retirement accounts cannot be removed, unless they are transferred in error.

(6) CO₂ Allowance Tracking System.

(a) CO₂ Allowance Tracking System accounts.

1. Compliance accounts. Consistent with 310 CMR 7.70(6)(b)1., the Department or its agent shall establish one compliance account for each CO₂ budget source. Deductions or transfers of CO₂ allowances pursuant to 310 CMR 7.70(4)(b), (6)(e), (6)(g), or (7) shall be recorded in the compliance accounts in accordance with 310 CMR 7.70(6).
2. General accounts. Consistent with 310 CMR 7.70(6)(b)2., the Department or its agent shall establish, upon request, a general account for any person. Transfers of CO₂ allowances pursuant to 310 CMR 7.70(7) shall be recorded in the general account in accordance with 310 CMR 7.70(6).

(b) Establishment of accounts.

1. Compliance accounts. Upon receipt of a complete account certificate of representation under 310 CMR 7.70(2)(d), the Department or its agent shall establish a compliance account for each CO₂ budget source for which the account certificate of representation was submitted.
2. General accounts.
 - a. Application for general account. Any person may apply to open a general account for the purpose of holding and transferring CO₂ allowances. An application for a general account may designate one and only one CO₂ authorized account representative and one and only one alternate CO₂ authorized account representative who may act on behalf of the CO₂ authorized account representative. The agreement by which the alternate CO₂ authorized account representative is selected shall include a procedure for authorizing the alternate CO₂ authorized account representative to act in lieu of the CO₂ 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:
 - i. Name, address, email address, telephone number, and facsimile transmission number of the CO₂ authorized account representative and any alternate CO₂ authorized account representative;
 - ii. At the option of the CO₂ authorized account representative, organization name and type of organization;
 - iii. A list of all persons subject to a binding agreement for the CO₂ authorized account representative or any alternate CO₂ authorized account

representative to represent their ownership interest with respect to the CO₂ allowances held in the general account;

iv. The following certification statement by the CO₂ authorized account representative and any alternate CO₂ authorized account representative: “I certify that I was selected as the CO₂ authorized account representative or the CO₂ alternate authorized account representative, as applicable, by an agreement that is binding on all persons who have an ownership interest with respect to CO₂ allowances held in the general account. I certify that I have all the necessary authority to carry out my duties and responsibilities under the CO₂ 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.”;

v. The signature of the CO₂ authorized account representative and any alternate CO₂ authorized account representative and the dates signed; and,

vi. 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, whether or not submitted.

b. Authorization of CO₂ authorized account representative.

i. Upon receipt by the Department or its agent of a complete application for a general account under 310 CMR 7.70(6)(b)2.a.:

(i) The Department or its agent shall establish a general account for the person or persons for whom the application is submitted.

(ii) The CO₂ authorized account representative and any alternate CO₂ authorized 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 CO₂ allowances held in the general account in all matters pertaining to the CO₂ Budget Trading Program, notwithstanding any agreement between the CO₂ authorized account representative or any alternate CO₂ authorized account representative and such person. Any such person shall be bound by any order or decision issued to the CO₂ authorized account representative or any alternate CO₂ authorized account representative by the Department or its agent or a court regarding the general account.

(iii) Any representation, action, inaction, or submission by any alternate CO₂ authorized account representative shall be deemed to be a representation, action, inaction, or submission by the CO₂ authorized account representative.

ii. Each submission concerning the general account shall be submitted, signed, and certified by the CO₂ authorized account representative or any alternate CO₂ authorized account representative for the persons having an ownership interest with respect to CO₂ allowances held in the general account. Each such submission shall include the following certification statement by the CO₂ authorized account representative or any alternate CO₂ authorized account representative: “I am authorized to make this submission on behalf of the persons having an ownership interest with respect to the CO₂ 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.”

iii. The Department or its agent shall accept or act on a submission concerning the general account only if the submission has been made, signed, and certified in accordance with 310 CMR 7.70(6)(b)2.b.ii.

c. Changing CO₂ authorized account representative and alternate CO₂ authorized account representative; changes in persons with ownership interest.

i. The CO₂ 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 310 CMR 7.70(6)(b)2.a. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous CO₂ authorized account representative, or the previous alternate CO₂ authorized 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 CO₂ authorized account representative and the persons with an ownership interest with respect to the CO₂ allowances in the general account.

ii. The alternate CO₂ 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 310 CMR 7.70(6)(b)2.a. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous CO₂ authorized account representative, or the previous alternate CO₂ authorized 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 CO₂ authorized account representative and the persons with an ownership interest with respect to the CO₂ allowances in the general account.

iii. In the event a new person having an ownership interest with respect to CO₂ 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 CO₂ authorized account representative and any alternate CO₂ authorized 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.

iv. Within 30 days following any change in the persons having an ownership interest with respect to CO₂ allowances in the general account, including the addition or deletion of persons, the CO₂ authorized account representative or any alternate CO₂ authorized 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 CO₂ allowances in the general account to include the change.

- d. Objections concerning CO₂ authorized account representative.
- i. Once a complete application for a general account under 310 CMR 7.70(6)(b)2.a. has been submitted and received, the Department or its agent shall rely on the application unless and until a superseding complete application for a general account under 310 CMR 7.70(6)(b)2.a. is received by the Department or its agent.
 - ii. Except as provided in 310 CMR 7.70(6)(b)2.c.i. and ii., no objection or other communication submitted to the Department or its agent concerning the authorization, or any representation, action, inaction, or submission of the CO₂ authorized account representative or any alternate CO₂ authorized account representative for a general account shall affect any representation, action, inaction, or submission of the CO₂ authorized account representative or any alternate CO₂ authorized account representative or the finality of any decision or order by the Department or its agent under the CO₂ Budget Trading Program.
 - iii. Neither the Department nor its agent shall adjudicate any private legal dispute concerning the authorization or any representation, action, inaction, or submission of the CO₂ authorized account representative or any alternate CO₂ authorized account representative for a general account, including private legal disputes concerning the proceeds of CO₂ allowance transfers.
- e. Delegation by CO₂ authorized account representative and alternate CO₂ authorized account representative.
- i. A CO₂ 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 310 CMR 7.70(6) and (7).
 - ii. An alternate CO₂ 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 310 CMR 7.70(6) and (7).
 - iii. In order to delegate authority to make an electronic submission to the Department or its agent in accordance with 310 CMR 7.70(6)(b)2.e.i and ii., the CO₂ authorized account representative or alternate CO₂ authorized 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:
 - (i) The name, address, email address, telephone number, and facsimile transmission number of such CO₂ authorized account representative or alternate CO₂ authorized account representative;
 - (ii) The name, address, email address, telephone number and facsimile transmission number of each such natural person, herein referred to as “electronic submission agent”;
 - (iii) For each such natural person, a list of the type of electronic submissions under 310 CMR 7.70(6)(b)2.e.i. or ii. for which authority is delegated to him or her; and,
 - (iv) The following certification statements by such CO₂ authorized account representative or alternate CO₂ authorized account representative:
 - 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 CO₂ authorized account

representative or alternate CO₂ authorized account representative, as appropriate, and before this notice of delegation is superseded by another notice of delegation under 310 CMR 7.70(6)(b)2.e.iv. shall be deemed to be an electronic submission by me.”

-2. “Until this notice of delegation is superseded by another notice of delegation under 310 CMR 7.70(6)(b)2.e.iv., I agree to maintain an email account and to notify the Department or its agent immediately of any change in my email address unless all delegation authority by me under 310 CMR 7.70(6)(b)2.e. is terminated.”

iv. A notice of delegation submitted under 310 CMR 7.70(6)(b)2.e.iii. shall be effective, with regard to the CO₂ authorized account representative or alternate CO₂ authorized 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 CO₂ authorized account representative or alternate CO₂ authorized 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.

v. Any electronic submission covered by the certification in 310 CMR 7.70(6)(b)2.e.iii.(iv)-1. and made in accordance with a notice of delegation effective under 310 CMR 7.70(6)(b)2.e.iv. shall be deemed to be an electronic submission by the CO₂ authorized account representative or alternate CO₂ authorized account representative submitting such notice of delegation.

3. Account identification. The Department or its agent shall assign a unique identifying number to each account established under 310 CMR 7.70(6)(b)1. or 2.

(c) CO₂ Allowance Tracking System responsibilities of CO₂ authorized account representative. Following the establishment of a CO₂ 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 CO₂ allowances in the account, shall be made only by the CO₂ authorized account representative for the account.

(d) Recordation of CO₂ allowance allocations.

1. On or before January 1, 2014, the Department or its agent shall record in the Massachusetts Auction Account the CO₂ allowances for the allocation years of 2014, 2015, 2016, and 2017.

2. On or before January 1, 2015 and each January 1 thereafter, the Department or its agent shall record CO₂ allowances in the Massachusetts Auction Account for the allocation year three years in the future.

3. On or before January 1, 2011 and January 1 of each year thereafter, the Department or its agent shall record CO₂ allowances allocated pursuant to 310 CMR 7.70(5)(c)1.b. in the Voluntary Renewable Energy (VRE) Account for the allocation year three years in the future.

4. Serial numbers for allocated CO₂ allowances. When allocating CO₂ allowances to, and recording them in, an account, the Department or its agent shall assign each CO₂ allowance a unique identification number that includes digits identifying the year for which the CO₂ allowance is allocated.

(e) Compliance.

1. Allowances available for compliance deduction. CO₂ allowances that meet the following criteria are available to be deducted in order for a CO₂ budget source to

comply with the CO₂ requirements of 310 CMR 7.70(1)(e)3. for a control period or an interim control period.

- a. The CO₂ allowances, other than CO₂ offset allowances, are of allocation years that fall within a prior control period, the same control period, or the same interim control period for which the allowances will be deducted.
- b. The CO₂ allowances are held in the CO₂ budget source's compliance account as of the CO₂ allowance transfer deadline for that control period or interim control period are transferred into the compliance account by a CO₂ allowance transfer correctly submitted for recordation under 310 CMR 7.70(7)(a) by the CO₂ allowance transfer deadline for that control period or interim control period.
- c. For CO₂ offset allowances, the number of CO₂ offset allowances that are available to be deducted in order for a CO₂ budget source to comply with the CO₂ requirements of 310 CMR 7.70(1)(e)3. for a control period or interim control period may not exceed 3.3 percent of the CO₂ budget source's CO₂ emissions for that control period, or 3.3 percent of 0.50 times the CO₂ budget source's emissions for an interim control period, as determined in accordance with 310 CMR 7.70(6) and (8); and
- d. The CO₂ allowances are not necessary for deductions for excess emissions for a prior control period under 310 CMR 7.70(6)(e)4.

2. Deductions for compliance. Following the recordation, in accordance with 310 CMR 7.70(7)(b), of CO₂ allowance transfers submitted for recordation in the CO₂ budget source's compliance account by the CO₂ allowance transfer deadline for a control period or interim control period, the Department or its agent shall deduct CO₂ allowances available under 310 CMR 7.70(6)(e)1. to cover the source's CO₂ emissions (as determined in accordance with 310 CMR 7.70(8)) for the control period or interim control period, as follows:

- a. Until the amount of CO₂ allowances deducted equals the number of tons of total CO₂ emissions (or 0.50 times the number of tons of total CO₂ emissions for the interim control period), less any CO₂ emissions attributable to the burning of eligible biomass, determined in accordance with 310 CMR 7.70(8), from all CO₂ budget units at the CO₂ budget source for the control period or interim control period; or
- b. If there are insufficient CO₂ allowances to complete the deductions in 310 CMR 7.70(6)(e)2.a., until no more CO₂ allowances available under 310 CMR 7.70(6)(e)1. remain in the compliance account.
- c. After making the deductions for compliance, the Department or its agent shall notify the CO₂ authorized account representative if it believes that the CO₂ budget source exceeded its CO₂ budget emissions limitation.

3. Identification of available CO₂ allowances by serial number; default compliance deductions.

- a. The CO₂ authorized account representative for a source's compliance account may request that specific CO₂ 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 310 CMR 7.70(6)(e)2. or 4. Such identification shall be made in the compliance certification report submitted in accordance with 310 CMR 7.70(4)(a).
- b. The Department or its agent shall deduct CO₂ allowances for a control period or interim control period from the CO₂ budget source's compliance account, in the absence of an identification or in the case of a partial identification of

available CO₂ allowances by serial number under 310 CMR 7.70(6)(e)3.a., in the following descending order:

- i. First, subject to the relevant compliance deduction limitations under 310 CMR 7.70(6)(e)1.c. and 4.a., CO₂ offset allowances. CO₂ offset allowances shall be deducted in chronological order (i.e., CO₂ offset allowances from earlier allocation years shall be deducted before CO₂ offset allowances from later allocation years). In the event that some, but not all, CO₂ offset allowances from a particular allocation year are to be deducted, CO₂ offset allowances shall be deducted by serial number, with lower serial number allowances deducted before higher serial number allowances.
- ii. Second, any CO₂ allowances, other than CO₂ offset allowances, that are available for deduction under 310 CMR 7.70(6)(e)1. CO₂ allowances shall be deducted in chronological order (i.e., CO₂ allowances from earlier allocation years shall be deducted before CO₂ allowances from later allocation years). In the event that some, but not all, CO₂ allowances from a particular allocation year are to be deducted, CO₂ allowances shall be deducted by serial number, with lower serial number allowances deducted before higher serial number allowances.

4. Deductions for excess emissions.

- a. After completing the procedures in 310 CMR 7.70(6)(e)2., the Department or its agent shall deduct from the CO₂ budget source's compliance account a number of CO₂ 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 CO₂ allowances to cover three times the number of the source's excess emissions, the source shall be required within 14 calendar days of receipt of notice by the Department or its agent to transfer sufficient allowances into its compliance account. No CO₂ offset allowances may be deducted to account for the source's excess emissions.
- b. Any CO₂ allowance deduction required under 310 CMR 7.70(6)(e)4.a. shall not affect the liability of the owners and operators of the CO₂ budget source or the CO₂ 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. In assessing fines, penalties or other obligations, each ton of excess emissions or excess interim emissions is a separate violation.
- c. The propriety of the Department's determination that a CO₂ budget source had excess emissions and the concomitant deduction of CO₂ allowances from that CO₂ 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, shall not act to prevent the Department or its agent from initially deducting the CO₂ allowances resulting from the Department's original determination that the relevant CO₂ budget source has had excess emissions. Should the Department's determination of the existence or extent of the CO₂ budget source's excess emissions be revised either by a settlement or final conclusion of any administrative or judicial action, the Department shall act as follows.

- i. In any instance where the Department's determination of the extent of excess emissions was too low, the Department shall take further action under 310 CMR 7.70(6)(e)4.a. and b. to address the expanded violation.
 - ii. In any instance where the Department's determination of the extent of excess emissions was too high, the Department shall distribute to the relevant CO₂ budget source a number of CO₂ allowances equaling the number of CO₂ allowances deducted which are attributable to the difference between the original and final quantity of excess emissions. Should such CO₂ budget source's compliance account no longer exist, the CO₂ allowances shall be provided to a general account selected by the owner or operator of the CO₂ budget source.
5. The Department or its agent shall record in the appropriate compliance account all deductions from such an account pursuant to 310 CMR 7.70(6)(e)2. and 4.
6. Action by the Department on submissions.
 - a. The Department may review and conduct independent audits concerning any submission under the CO₂ Budget Trading Program and make appropriate adjustments of the information in the submissions.
 - b. The Department may deduct CO₂ allowances from or transfer CO₂ allowances to a source's compliance account based on information in the submissions, as adjusted under 310 CMR 7.70(6)(e)6.a.
- (f) Banking. Each CO₂ allowance that is held in a compliance account or a general account shall remain in such account unless and until the CO₂ allowance is deducted or transferred under 310 CMR 7.70(4)(b), (6)(e), (6)(g), or (7).
- (g) Account error.
 1. The Department or its agent may, at its sole discretion and on its own motion, correct any error in any CO₂ Allowance Tracking System account. Within 10 business days of making such correction, the Department or its agent shall notify the CO₂ authorized account representative for the account.
 2. At any time the CO₂ authorized account representative may notify the Department if it believes that a mistake has been made.
- (h) Closing of general accounts.
 1. A CO₂ 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 CO₂ Allowance Tracking System and by correctly submitting for recordation under 310 CMR 7.70(7)(a) a CO₂ allowance transfer of all CO₂ allowances in the account to one or more other CO₂ Allowance Tracking System accounts.
 2. If a general account shows no activity for a period of six years or more and does not contain any CO₂ allowances, the Department or its agent may notify the CO₂ authorized account representative for the account that the account shall be closed in the CO₂ Allowance Tracking System 20 business days after the notice is sent. The account shall be closed after the 20-day period unless before the end of the 20-day period the Department or its agent receives a correctly submitted transfer of CO₂ allowances into the account under 310 CMR 7.70(7)(a) or a statement submitted by the CO₂ 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.

(7) CO₂ Allowance Transfers.

(a) Submission of CO₂ allowance transfers. The CO₂ authorized account representative who is the transferor shall submit the transfer to the Department or its agent. To be considered correctly submitted, the CO₂ allowance transfer shall include the following elements in a format specified by the Department or its agent:

1. The numbers identifying both the transferor and transferee accounts;
2. A specification by serial number of each CO₂ allowance to be transferred;
3. The printed name and signature of the CO₂ authorized account representative of the transferor account and the date signed;
4. The date of the completion of the last sale or purchase transaction for the allowance, if any; and,
5. The purchase or sale price of the allowance that is the subject of a sale or purchase transaction under 310 CMR 7.70(7)(a)4.

(b) Recordation.

1. Within 5 business days of receiving a CO₂ allowance transfer, except as provided in 310 CMR 7.70(7)(b)2., the Department or its agent shall record a CO₂ allowance transfer by moving each CO₂ allowance from the transferor account to the transferee account as specified by the request, provided that:

- a. The transfer is correctly submitted under 310 CMR 7.70(7)(a); and,
- b. The transferor account includes each CO₂ allowance identified by serial number in the transfer.

2. A CO₂ allowance transfer into or out of a compliance account that is submitted for recordation following the CO₂ allowance transfer deadline and that includes any CO₂ allowances that are of allocation years that fall within a control period prior or interim control period to or the same as the control period or interim control period to which the CO₂ allowance transfer deadline applies shall not be recorded until after completion of the process pursuant to 310 CMR 7.70(6)(e)2.

3. Where a CO₂ allowance transfer submitted for recordation fails to meet the requirements of 310 CMR 7.70(7)(b)1., the Department or its agent shall not record such transfer.

(c) Notification.

1. Notification of recordation. Within 5 business days of recordation of a CO₂ allowance transfer under 310 CMR 7.70(7)(b), the Department or its agent shall notify each party to the transfer. Notice shall be given to the CO₂ authorized account representatives of both the transferor and transferee accounts.

2. Notification of non-recordation. Within 10 business days of receipt of a CO₂ allowance transfer that fails to meet the requirements of 310 CMR 7.70(7)(b)1., the Department or its agent shall notify the CO₂ authorized account representatives of both accounts subject to the transfer of:

- a. A decision not to record the transfer; and,
- b. The reasons for such non-recordation.

3. Nothing in 310 CMR 7.70(7) shall preclude the submission of a CO₂ allowance transfer for recordation following notification of non-recordation.

(8) Monitoring and Reporting

(a) General requirements. The owners and operators, and to the extent applicable, the CO₂ authorized account representative of a CO₂ budget unit, shall comply with the monitoring, recordkeeping and reporting requirements as provided in 310 CMR 7.70(8) and all applicable sections of 40 CFR Part 75. Where referenced in 310 CMR 7.70(8),

the monitoring requirements of 40 CFR Part 75 shall be adhered to in a manner consistent with the purpose of monitoring and reporting CO₂ mass emissions pursuant to 310 CMR 7.70. For purposes of complying with such requirements, the definitions in 310 CMR 7.70(1)(b) 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 Part 75 shall be replaced by the terms “CO₂ budget unit,” “CO₂ authorized account representative,” and “continuous emissions monitoring system” (or “CEMS”), respectively, as defined in 310 CMR 7.70(1)(b). For units not subject to an acid rain emissions limitation, the term “Administrator” in 40 CFR Part 75 shall be replaced with “the Department or its agent.” Owners or operators of a CO₂ budget unit who monitor a non-CO₂ 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 310 CMR 7.70, shall monitor and report CO₂ mass emissions from such non-CO₂ budget unit according to the procedures for CO₂ budget units established in 310 CMR 7.70(8)(a) through (g).

1. Requirements for installation, certification, and data accounting. The owner or operator of each CO₂ budget unit shall meet the following requirements:
 - a. Install all monitoring systems necessary to monitor CO₂ mass emissions in accordance with 40 CFR Part 75, except for equation G-1. Equation G-1 in Appendix G shall not be used to determine CO₂ emissions under 310 CMR 7.70(8). This may require systems to monitor CO₂ concentration, stack gas flow rate, O₂ concentration, heat input, and fuel flow rate;
 - b. Successfully complete all certification tests required under 310 CMR 7.70(8)(b) and meet all other requirements of 310 CMR 7.70(8) and 40 CFR Part 75 applicable to the monitoring systems under 310 CMR 7.70(8)(a)1.a.; and,
 - c. Record, report and quality-assure the data from the monitoring systems under 310 CMR 7.70(8)(a)1.a.
2. Compliance dates. The owner or operator of a CO₂ budget unit shall meet the monitoring system certification and other requirements of 310 CMR 7.70(8)(a)1.a. through 1.c. on or before the following dates. The owner or operator of a CO₂ budget unit shall record, report and quality-assure the data from the monitoring systems under 310 CMR 7.70(8)(a)1.a. on and after the following dates.
 - a. The owner or operator of a CO₂ budget unit, except for a CO₂ budget unit under 310 CMR 7.70(8)(a)2.b., that commences commercial operation before July 1, 2008, must comply with the requirements of 310 CMR 7.70(8) by January 1, 2009.
 - b. The owner or operator of a CO₂ budget unit that commences commercial operation on or after July 1, 2008 must comply with the requirements of 310 CMR 7.70(8) by the later of the following dates:
 - i. January 1, 2009; or,
 - ii. The earlier of:
 - (i) 90 unit operating days after the date on which the unit commences commercial operation; or,
 - (ii) 180 calendar days after the date on which the unit commences commercial operation.
 - c. For the owner or operator of a CO₂ budget unit for which construction of a new stack or flue installation is completed after the applicable deadline under 310 CMR 7.70(8)(a)2.a. or 2.b. by the earlier of:

- i. 90 unit operating days after the date on which emissions first exit to the atmosphere through the new stack or flue; or,
 - ii. 180 calendar days after the date on which emissions first exit to the atmosphere through the new stack or flue.
- 3. Reporting data.
 - a. Except as provided in 310 CMR 7.70(8)(a)3.b., the owner or operator of a CO₂ budget unit that does not meet the applicable compliance date set forth in 310 CMR 7.70(8)(a)2.a., 2.b., and 2.c. for any monitoring system under 310 CMR 7.70(8)(a)1.a. shall, for each such monitoring system, determine, record, and report maximum potential (or as appropriate minimum potential) values for CO₂ concentration, CO₂ emissions rate, stack gas moisture content, fuel flow rate, heat input, and any other parameter required to determine CO₂ mass emissions in accordance with 40 CFR 75.31(b)(2) or (c)(3), or section 2.4 of Appendix D of 40 CFR Part 75, as applicable.
 - b. The owner or operator of a CO₂ budget unit that does not meet the applicable compliance date set forth in 310 CMR 7.70(8)(a)2.c. for any monitoring system under 310 CMR 7.70(8)(a)1.a. 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 Part 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 310 CMR 7.70(8)(a)2.c.
 - c. Low mass emissions (LME) units.
 - i. CO₂ budget units subject to an acid rain emissions limitation or 310 CMR 7.32 that qualify for the optional SO₂, NO_x, and CO₂ (for acid rain) or NO_x (for 310 CMR 7.32) emissions calculations for low mass emissions (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 CO₂ emissions calculations for LME units under 40 CFR 75.19 for purposes of compliance with 310 CMR 7.70.
 - ii. CO₂ budget units subject to an acid rain emissions limitation or 310 CMR 7.32 that do not qualify for the optional SO₂, NO_x, and CO₂ (for acid rain) or NO_x (for 310 CMR 7.32) emissions calculations for LME units under 40 CFR 75.19, shall not use the CO₂ emissions calculations for LME units under 40 CFR 75.19 for purposes of compliance with 310 CMR 7.70.
 - iii. CO₂ budget units not subject to an acid rain emissions limitation or 310 CMR 7.32 shall qualify for the optional CO₂ emissions calculation for LME units under 40 CFR 75.19, provided that they emit less than 100 tons of NO_x annually and no more than 25 tons of SO₂ annually.
- 4. Prohibitions.
 - a. No owner or operator of a CO₂ 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 310 CMR 7.70(8)(f).
 - b. No owner or operator of a CO₂ budget unit shall operate the unit so as to discharge, or allow to be discharged, CO₂ emissions to the atmosphere without accounting for all such emissions in accordance with the applicable provisions of 310 CMR 7.70(8) and 40 CFR Part 75.

c. No owner or operator of a CO₂ 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 CO₂ 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 310 CMR 7.70(8) and 40 CFR Part 75.

d. No owner or operator of a CO₂ 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 310 CMR 7.70(8), except under any one of the following circumstances:

i. The owner or operator is monitoring emissions from the unit with another certified monitoring system approved, in accordance with the applicable provisions of 310 CMR 7.70(8) and 40 CFR Part 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,

ii. The CO₂ authorized account representative submits notification of the date of certification testing of a replacement monitoring system in accordance with 310 CMR 7.70(8)(b)4.c.i.

(b) Initial certification and recertification procedures.

1. The owner or operator of a CO₂ budget unit shall be exempt from the initial certification requirements of 310 CMR 7.70(8)(b) for a monitoring system under 310 CMR 7.70(8)(a)1.a. if the following conditions are met:

a. The monitoring system has been previously certified in accordance with 40 CFR Part 75; and,

b. The applicable quality assurance and quality-control requirements of 40 CFR 75.21 and Appendix B and Appendix D of 40 CFR Part 75 are fully met for the certified monitoring system described in 310 CMR 7.70(8)(b)1.a.

2. The recertification provisions of 310 CMR 7.70(8)(b) shall apply to a monitoring system under 310 CMR 7.70(8)(a)1.a. exempt from initial certification requirements under 310 CMR 7.70(8)(b)1.

3. Notwithstanding 310 CMR 7.70(8)(b)1., 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 CO₂ 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 Part 75, the CO₂ authorized account representative shall submit the petition to the Department under 310 CMR 7.70(8)(f)1. to determine whether the approval applies under this program.

4. Except as provided in 310 CMR 7.70(8)(b)1., the owner or operator of a CO₂ 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 Part 75 and under 310 CMR 7.70(8)(a)1.a. 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 Part 75 shall comply with the procedures in 310 CMR 7.70(8)(b)5. or 6., respectively.

a. Requirements for initial certification. The owner or operator shall ensure that each continuous emissions monitoring system required under 310 CMR 7.70(8)(a)1.a. (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 310 CMR 7.70(8)(a)2. In addition, whenever the owner or operator installs a monitoring system in order to meet the requirements of 310 CMR 7.70(8) in a location where no such monitoring system was previously installed, initial certification in accordance with 40 CFR 75.20 is required.

b. Requirements for recertification.

(i) Whenever the owner or operator makes a replacement, modification, or change in a certified continuous emissions monitoring system under 310 CMR 7.70(8)(a)1.a. that the Administrator or the Department determines significantly affects the ability of the system to accurately measure or record CO₂ mass emissions or to meet the quality-assurance and quality-control requirements of 40 CFR 75.21 or Appendix B to 40 CFR Part 75, the owner or operator shall recertify the monitoring system according to 40 CFR 75.20(b).

(ii) For systems using stack measurements such as stack flow, stack moisture content, or CO₂ or O₂ 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.

c. Approval process for initial certifications and recertification. 310 CMR 7.70(8)(b)4.c.i through iv. apply to both initial certification and recertification of a monitoring system under 310 CMR 7.70(8)(a)1.a. For recertifications, 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 310 CMR 7.70(8)(b)4.c.v.

i. Notification of certification. The CO₂ 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 310 CMR 7.70(8)(d).

ii. Certification application. The CO₂ 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.

iii. 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 CO₂ 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 310 CMR 7.70(8)(b)4.c.ii. Data measured and recorded by the provisionally certified monitoring system or component thereof, in accordance with the requirements of 40 CFR Part 75, shall 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.

iv. Certification application approval process. The Department shall 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 310 CMR 7.70(8)(b)4.c.ii. In the event the Department does not issue such a notice within such 120-day period, each monitoring system that meets the applicable performance requirements of 40 CFR Part 75 and is included in the certification application shall be deemed certified for use under the CO₂ Budget Trading Program.

(i) Approval notice. If the certification application is complete and shows that each monitoring system meets the applicable performance requirements of 40 CFR Part 75, then the Department shall issue a written notice of approval of the certification application within 120 days of receipt.

(ii) Incomplete application notice. If the certification application is not complete, then the Department shall issue a written notice of incompleteness that sets a reasonable date by which the CO₂ authorized account representative must submit the additional information required to complete the certification application. If the CO₂ 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 310 CMR 7.70(8)(b)4.c.iv.(iii). The 120 day review period shall not begin before receipt of a complete certification application

(iii) Disapproval notice. If the certification application shows that any monitoring system or component thereof does not meet the performance requirements of 40 CFR Part 75, or if the certification application is incomplete and the requirement for disapproval under 310 CMR 7.70(8)(b)4.c.iv.(ii) is met, then the Department shall 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 310 CMR 7.70(8)(b)4.c.v. for each monitoring system, or component thereof, which is disapproved for initial certification.

(iv) Audit decertification. The Department may issue a notice of disapproval of the certification status of a monitor in accordance with 310 CMR 7.70(8)(c)2.

v. Procedures for loss of certification. If the Department issues a notice of disapproval of a certification application under 310 CMR 7.70(8)(b)4.c.iv.(iii) or a notice of disapproval of certification status under 310 CMR 7.70(8)(b)4.c.iv.(iv), then:

(i) 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):

-1. For units monitoring, or intending to monitor, for CO₂ 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,

-2. For units monitoring, or intending to monitor, for CO₂ mass emissions using a CO₂ pollutant concentration monitor and a flow monitor, the maximum potential concentration of CO₂ and the maximum potential flow rate of the unit under section 2.1 of appendix A of 40 CFR Part 75.

(ii) The CO₂ authorized account representative shall submit a notification of certification retest dates and a new certification application in accordance with 310 CMR 7.70(8)(b)4.c.i. and ii.; and

(iii) 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.

5. Initial certification and recertification procedures for low mass emissions units using the excepted methodologies under 310 CMR 7.70(8)(a)3.c. The owner or operator of a unit qualified to use the low mass emissions excepted methodology under 310 CMR 7.70(8)(a)3.c. shall meet the applicable certification and recertification requirements of 40 CFR 75.19(a)(2), 40 CFR 75.20(h) and 310 CMR 7.70(8)(b). 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).

6. Certification/recertification procedures for alternative monitoring systems. The CO₂ authorized account representative for 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 Part 75 shall comply with the applicable notification and application procedures of 40 CFR 75.20(f).

(c) Out-of-control periods.

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

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 310 CMR 7.70(8)(b) or the applicable provisions of 40 CFR Part 75, both at the time of the initial certification or recertification application submission and at the time of the audit, the Department or Administrator shall issue a notice of disapproval of the certification status of such monitoring system. For the purposes of this 310 CMR 7.70(8)(c)2., 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 310 CMR 7.70(8)(b) for each disapproved monitoring system.

(d) Notifications. The CO₂ authorized account representative for a CO₂ budget unit shall submit written notice to the Department and the Administrator in accordance with 40 CFR 75.61.

(e) Recordkeeping and reporting.

1. General provisions. The CO₂ authorized account representative shall comply with all recordkeeping and reporting requirements in 310 CMR 7.70(8)(e), the applicable record keeping and reporting requirements under 40 CFR 75.73 and with the requirements of 310 CMR 7.70(2)(a)5.

2. Monitoring plans. The owner or operator of a CO₂ budget unit required to submit a monitoring plan shall submit such monitoring plan in the manner prescribed in 40 CFR 75.62.

3. Certification applications. The CO₂ authorized account representative shall submit an application to the Department within 45 days after completing all CO₂ monitoring system initial certification or recertification tests required under 310 CMR 7.70(8)(b) including the information required under 40 CFR 75.63 and 40 CFR 75.53(e) and (f).

4. Quarterly reports. The CO₂ authorized account representative shall submit quarterly reports, as follows:

a. The CO₂ authorized account representative shall report the CO₂ mass emissions data for the CO₂ budget unit, in an electronic format prescribed by the Administrator, unless otherwise prescribed by the Department, for each calendar quarter beginning with:

- i. For a unit that commences commercial operation before July 1, 2008, the calendar quarter covering January 1, 2009 through March 31, 2009; or
- ii. 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 310 CMR 7.70(8)(a)2. 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.

b. The CO₂ authorized account representative shall submit each quarterly report to the Department's 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 Part 75 and 40 CFR 75.64. Quarterly reports shall be submitted for each CO₂ 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 Part 75, except for opacity, NO_x and SO₂ provisions.

c. Compliance certification. The CO₂ 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:

- i. The monitoring data submitted were recorded in accordance with the applicable requirements of 310 CMR 7.70(8) and 40 CFR Part 75, including the quality assurance procedures and specifications;
- ii. For a unit with add-on CO₂ 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 Part 75 and the substitute values do not systematically underestimate CO₂ emissions; and,

iii. The CO₂ concentration values substituted for missing data under Subpart D of 40 CFR Part 75 do not systematically underestimate CO₂ emissions.

(f) Petitions.

1. Except as provided in 310 CMR 7.70(8)(f)3., the CO₂ authorized account representative of a CO₂ 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 310 CMR 7.70(8). Application of an alternative to any requirement of 40 CFR Part 75 is in accordance with 310 CMR 7.70(8) only to the extent that the petition is approved in writing by the Administrator, and subsequently approved in writing by the Department.

2. Petitions for a CO₂ budget unit that is not subject to an Acid Rain emissions limitation.

a. The CO₂ authorized account representative of a CO₂ 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 Part 75. Application of an alternative to any requirement of 40 CFR Part 75 is in accordance with 310 CMR 7.70(8) only to the extent that the petition is approved in writing by the Administrator, and subsequently approved in writing by the Department.

b. In the event that the Administrator declines to review a petition under 310 CMR 7.70(8)(f)2.a., the CO₂ authorized account representative of a CO₂ 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 310 CMR 7.70(8). That petition shall contain all of the relevant information specified in 40 CFR 75.66. Application of an alternative to any requirement of 310 CMR 7.70(8) is in accordance with 310 CMR 7.70(8) only to the extent that the petition is approved in writing by the Department.

3. The CO₂ authorized account representative of a CO₂ 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 CO₂ concentration CEMS used under 40 CFR 75.71(a)(2). Application of an alternative to any such requirement is in accordance with 310 CMR 7.70(8) only to the extent the petition is approved in writing by the Administrator, and subsequently approved in writing by the Department.

(g) CO₂ budget units that co-fire eligible biomass.

1. The CO₂ authorized account representative of a CO₂ budget unit that co-fires eligible biomass as a compliance mechanism under 310 CMR 7.70 shall report the following information to the Department or its agent for each calendar quarter:

a. For each shipment of solid eligible biomass fuel fired at the CO₂ budget unit, the total eligible biomass fuel input, on an as-fired basis, in pounds.

b. For each shipment of solid eligible biomass fuel fired at the CO₂ budget unit, the moisture content, on an as-fired basis, as a fraction by weight.

- c. For each distinct type of gaseous eligible biomass fuel fired at the CO₂ budget unit, the density of the biogas, on an as-fired basis, in pounds per standard cubic foot.
- d. For each distinct type of gaseous eligible biomass fuel fired at the CO₂ budget unit, the moisture content of the biogas, as a fraction by total weight.
- e. For each distinct type of gaseous eligible biomass fuel fired at the CO₂ budget unit, the total eligible biomass fuel input, in standard cubic feet.
- f. For each distinct type of eligible biomass fuel fired at the CO₂ budget unit, the dry basis carbon content of the fuel type, as a fraction by dry weight.
- g. For each distinct type of eligible biomass fuel fired at the CO₂ budget unit, the dry basis higher heating value, in MMBtu per dry pound.
- h. For each distinct type of eligible biomass fuel fired at the CO₂ budget unit, the total dry basis eligible biomass fuel input, in pounds, calculated in accordance with 310 CMR 7.70(8)(g)2.
- i. The total amount of CO₂ emitted from the CO₂ budget unit due to firing eligible biomass fuel, in tons, calculated in accordance with 310 CMR 7.70(8)(g)3.
- j. For each distinct type of eligible biomass fuel fired at the CO₂ budget unit, the total eligible biomass fuel heat input, in MMBtu, calculated in accordance with 310 CMR 7.71(8)(g)4.a.
- j. The total amount of heat input to the CO₂ budget unit due to firing eligible biomass fuel, in MMBtu, calculated in accordance with 310 CMR 7.71(8)(g)4.b.
- k. Description and documentation of monitoring technology employed, and description and documentation of fuel sampling methodology employed, including sampling frequency; and,
- l. For each distinct type of eligible biomass fuel fired at the CO₂ budget unit, chemical analysis, including heating value and carbon content.

2. An owner or operator of a CO₂ 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 CO₂ budget unit during the reporting quarter. The total dry weight shall be determined for each fuel type as follows:

- a. For solid fuel types:

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

where:

F_j = 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.

- b. 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.

3. CO₂ emissions due to firing of eligible biomass shall be determined as follows:
 - a. For any full calendar quarter during which no fuel other than eligible biomass is combusted at the CO₂ budget unit, as measured and recorded in accordance with 310 CMR 7.70(8)(a) - (f); or
 - b. For any full calendar quarter during which fuels other than eligible biomass are combusted at the CO₂ budget unit, as determined using the following equation:

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

where:

- CO₂ tons = CO₂ 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 310 CMR 7.70(8)(g)2.;
- 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 310 CMR 7.70(8)(g)1.1.; 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.

4. Heat input due to firing of eligible biomass for each quarter shall be determined as follows:
 - a. For each distinct fuel type:

$$H_j = F_j \times \text{HHV}_j$$

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 310 CMR 7.71(8)(g)2.;
- HHV_j = Higher heating value (MMBtu/lb), dry basis, for fuel type j, as determined through chemical analysis;
- j = fuel type.

- b. For all fuel types:

n

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

where:

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

j = fuel type; and,

n = number of distinct fuel types.

5. Fuel sampling methods and fuel sampling technology shall be consistent with the New York State Renewable Portfolio Standard Biomass Guidebook, May 2006.

(h) Additional requirements to provide output data.

1. CO₂ budget source shall submit to the Department or its agent net electrical output.

2. CO₂ budget sources selling steam should use billing meters to determine net steam output. A CO₂ budget source whose steam output is not measured by billing meters or whose steam output is combined with output from a non-CO₂ 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 CO₂ budget source may report heat input providing useful steam output as a surrogate for steam output.

3. Monitoring. The owner or operator of each CO₂ budget unit required to submit an output monitoring plan pursuant to 310 CMR 7.70(3)(c) shall propose a method for quantification of net energy output in such output monitoring plan, including:

a. A diagram that includes the following features where applicable:

i. All CO₂ budget units and all generators served by each CO₂ budget unit and the relationship between CO₂ budget units and generators. If a generator served by a CO₂ budget unit is also served by a non-CO₂ budget unit, the non-CO₂ budget 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 CO₂ budget source. 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 CO₂ budget units.

ii. If the CO₂ budget unit monitors net thermal output, the diagram should include all steam or hot water coming into the net steam system, including steam from CO₂ budget units and non-CO₂ budget units, and all exit points of steam or hot water from the net steam system. In addition, each input and output stream shall 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 shall represent all energy losses in the system as either usable or unusable losses. The diagram shall 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.

b. A description of each output monitoring system. The description of the output monitoring system shall 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 shall be included.

c. A detailed description of all quality assurance/quality control activities that will be performed to maintain the output system in accordance with 310 CMR 7.70(8)(h)5.

d. 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 shall 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 310 CMR 7.70(8)(h)3.

4. Initial certification. A certification statement shall be submitted by the CO₂ 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 310 CMR 7.70(8)(h)4.b. The certification shall be submitted in accordance with the compliance deadlines established in 310 CMR 7.70(3)(b).

a. Billing meters. The billing meter shall record the electric or thermal output. Any electric or thermal output values that the facility reports shall 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.

b. Non-billing meters. For non-billing meters and systems that include a mixture of billing meters and non-billing meters, the output monitoring system shall meet either of the accuracy criteria in 310 CMR 7.70(8)(h)4i. and ii..

i. System approach to accuracy. The system approach to accuracy shall include a determination of how the system accuracy of within less than or equal to 10% of the reference value is achieved using the individual components in the system and should include data loggers and any wattmeters used to calculate the final net electric output data and/or any flowmeters for steam or condensate, temperature measurement devices, absolute pressure measurement devices, and differential pressure devices used for measuring thermal energy.

ii. Component approach to accuracy. If testing a piece of output measurement equipment shows that the output readings are not accurate to within less than or equal to 3.0% of the full scale value, then the equipment shall 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.

5. Ongoing QA/QC. The following ongoing quality assurance/quality control activities must be performed in order to maintain the output system:

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

b. Non-billing meters. Certain types of equipment such as potential transformers, current transformers, nozzle and venture 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 shall require periodic retesting. For such pressure and temperature transmitters, and 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. The output monitoring system shall either meet an accuracy of within 10% of the reference value, or each component monitor for the output system shall meet an accuracy of within 3.0% 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% of the full scale value, then the equipment should be repaired or replaced to meet that requirement.

c. 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 310 CMR 7.70(8)(h)3.

6. Recordkeeping and reporting.

a. General provisions. The CO₂ authorized account representative shall comply with all recordkeeping and reporting requirements in 310 CMR 7.70(8)(h) and with the requirements of 310 CMR 7.70(1)(e)5. and (2)(a)5.

b. Recordkeeping. Facilities shall retain data used to monitor, determine, or calculate net generation for ten years from the date reported.

c. Annual reports. The CO₂ authorized account representative shall submit annual output reports in a spreadsheet, as follows. The data shall 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 the annual total unit level MWh, the annual total useful steam output and a certification statement from the CO₂ authorized account representative stating the following, “I am authorized to make this submission on behalf of the owners and operators of the CO₂ budget sources or CO₂ 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.”

(9) RESERVED

(10) CO₂ Emissions Offset Projects.

(a) Purpose. The Department shall provide for the award of CO₂ offset allowances to project sponsors of CO₂ emissions offset projects that have reduced or avoided atmospheric loading of CO₂ or CO₂ equivalent, or sequestered carbon as demonstrated in accordance with the applicable provisions of 310 CMR 7.70(10). The requirements of 310 CMR 7.70(10) seek to ensure that CO₂ offset allowances awarded represent CO₂ 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 310 CMR

7.70(6)(e)1.c., CO₂ offset allowances may be used by any CO₂ budget source for compliance purposes.

(b) Definitions.

Allocation period. The maximum number of years for which the Department may award CO₂ offset allowances to a project for a given consistency determination pursuant to 310 CMR 7.70(10).

Anaerobic digester. 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. The degradation of organic material including manure brought about through the action of microorganisms in the absence of elemental oxygen.

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

ANSI. American National Standards Institute.

ASHRAE. American Society of Heating, Refrigerating and Air-Conditioner Engineers.

Attribute. 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. An attribute credit represents the attributes related to one megawatt-hour of electricity generation.

Biogas. Gas resulting from the decomposition of organic matter under anaerobic conditions. The principal constituents are methane and carbon dioxide.

Boiler (commercial). A self contained, low-pressure appliance for supplying steam or hot water to a commercial building.

Boiler (residential). A self contained, low-pressure appliance for supplying steam or hot water to a residential building.

Building envelope. 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.

CO₂e. CO₂e means carbon dioxide equivalent.

Commercial building. A building to which the provisions of ANSI/ASHRAE/IESNA Standard 90.1 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).

Conflict of interest. A situation that may arise with respect to an individual in relation to any specific project sponsor, CO₂ 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.

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

Cooperating regulatory agency. 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 CO₂ 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 310 CMR 7.70(10).

Energy conservation measure (ECM) or energy efficiency measure (EEM). A set of activities designed to increase the energy efficiency of a building or improve the management of energy demand.

Energy performance. 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. Provision of useful services to building occupants, such as heating and hot water, cooling, and lighting.

Forest offset project. An offset project involving reforestation, improved forest management, or avoided conversion.

Forest offset project data report. The report prepared by a project sponsor each year that provides the information and documentation required by 310 CMR 7.71(10) or the forest offset protocol.

Forest offset protocol. The protocol titled "Regional Greenhouse Gas Initiative Offset Protocol U.S. Forest Projects", developed by the participating states and finalized on February 7, 2013.

Furnace (residential). 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 commercial building.

HVAC system. 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.

IESNA. Illuminating Engineering Society of North America.

Independent verifier. An individual that has been approved by the Department or its agent to conduct verification activities.

Intentional Reversal. 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.

Market penetration rate. 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.

Non-census water. 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. 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 310 CMR 7.70(10)(d). 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 310 CMR 7.70(10)(e).

Onsite combustion. The combustion of fossil fuel at a building to provide building services, such as heating, hot water, or electricity.

Passive solar. 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.

Permanently retired. A greenhouse gas allowance or credit has been “permanently retired” if it has been placed in a retirement account controlled by the jurisdiction that generated the allowance or credit, or has been placed in an allowance retirement account controlled by the Department, or is otherwise determined by the Department to have been rendered unusable.

Project commencement. 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 3.2 of the forest offset protocol.

Project sponsor. The CO₂ authorized account representative for the general account of an eligible CO₂ emissions offset project or CO₂ emissions credit retirement.

Regional-type anaerobic digester. 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. 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. The period of time covered by a 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.

Residential building. A low-rise residential building to which the provisions of ANSI/ASHRAE/IESNA Standard 90.1 do not apply. Includes single family homes, multifamily structures of three stories or fewer above grade, and manufactured homes (modular and mobile).

RESNET. Residential Energy Services Network.

Reversal. A GHG emission reduction or GHG removal enhancement for which CO₂ offset allowances have been issued that is subsequently released or emitted back into the atmosphere due to any intentional or unintentional circumstance.

SF₆-containing operating equipment. Any equipment used for the transmission and distribution of electricity that contains SF₆.

System benefit fund. Any fund collected directly from retail electricity or natural gas ratepayers.

Total solids. 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. 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.

Unintentional Reversal. Any reversal, including wildfires or disease that is not the result of the forest owner's negligence, gross negligence, or willful intent.

Verification. The verification by an independent verifier that certain parts of a CO₂ emissions offset project consistency application and/or measurement, monitoring or verification report conforms to the requirements of 310 CMR 7.70(10).

Volatile solids. The fraction of total solids that is comprised primarily of organic matter.

Whole-building energy performance. 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. 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. 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.

(c) General requirements.

1. Eligible CO₂ emissions offset projects. To qualify for the award of CO₂ offset allowances, offset projects shall satisfy all the applicable requirements of 310 CMR 7.70(10).

a. Offset project types. The following types of offset projects are eligible for the award of CO₂ offset allowances:

- i. landfill methane capture and destruction;
- ii. reduction in emissions of sulfur hexafluoride (SF₆);
- iii. sequestration of carbon due to reforestation, improved forest management, or avoided conversion;
- iv. reduction or avoidance of CO₂ emissions from natural gas, oil, or propane end-use combustion due to end-use energy efficiency; and,
- v. avoided methane emissions from agricultural manure management operations.

b. Offset project locations.

i. To qualify for the award of CO₂ offset allowances under 310 CMR 7.70(10), eligible offset projects may be located in any of the following locations:

- (i) In Massachusetts; and,
- (ii) In any state or other 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 CO₂ 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 310 CMR 7.70(10).

- ii. Projects located (in whole or in part) in one or more participating states are not eligible for CO₂ offset allowances under 310 CMR 7.70(10) unless more of the CO₂ equivalent emissions reduction or carbon sequestration due to the offset project is projected to occur in Massachusetts than in any other participating state.
2. Project sponsor. Any person may act as the sponsor of an eligible CO₂ emissions offset project, provided that person meets the requirements at 310 CMR 7.70(10)(d).
 3. General additionality requirements. Except as provided with respect to specific offset project standards in 310 CMR 7.70(10)(e), the following general requirements shall apply:
 - a. CO₂ offset allowances shall not be awarded to an offset project that is required pursuant to any local, state or federal law, regulation, ordinance, by-law, or administrative or judicial order. If an offset project receives a consistency determination under 310 CMR 7.70(10)(d) 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 CO₂ offset allowances until the end of its current allocation period but its eligibility shall not be extended for an additional allocation period;
 - b. CO₂ offset allowances shall not be awarded to an offset project that includes an electric generation component, unless the project sponsor transfers to the Department or its agent legal rights to any and all attribute credits (other than the CO₂ offset allowances that would be awarded under 310 CMR 7.70(10)(g)) generated from the operation of the offset project that may be used for compliance with a renewable portfolio standard or other regulatory requirement;
 - c. CO₂ 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 auction of CO₂ allowances from the Massachusetts Auction Account pursuant to 310 CMR 7.70 (5)(c)1.; and,
 - d. CO₂ offset allowances shall not be awarded to an offset project that is awarded credits or allowances under any other mandatory or voluntary greenhouse gas program except as provided in 310 CMR 7.70(10)(e)3.j.
 4. Maximum allocation periods for CO₂ emissions offset projects.
 - a. Maximum allocation periods. Except as provided in 310 CMR 7.70(10)(c)4.b., the Department may award CO₂ offset allowances under 310 CMR 7.70(10)(g) for an initial 10-year allocation period. At the end of the initial 10-year allocation period, the Department may award CO₂ offset allowances for a second 10-year allocation period, provided the offset sponsor has submitted a consistency application pursuant to 310 CMR 7.70(10)(d) prior to the expiration of the initial allocation period, and the Department has issued a consistency determination pursuant to 310 CMR 7.70(10)(d)5.b.
 - b. Maximum afforestation allocation period. The Department may award CO₂ offset allowances under 310 CMR 7.70(10)(g) for any project involving reforestation, improved forest management, or avoided conversion for an initial 25-year allocation period. At the end of the initial 25-year allocation period or any subsequent crediting period, the Department may award CO₂ offset allowances for another 25-year allocation period, provided the offset sponsor has submitted a consistency application for the offset project pursuant to 310 CMR 7.70(10)(d) prior to the expiration of the initial allocation period, and the Department has issued a consistency determination pursuant to 310 CMR 7.70(10)(d)5.b.

5. Offset project audit. Project sponsors shall provide as part of the Consistency Application required under 310 CMR 7.70 (10) (d) 3., 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 310 CMR 7.70(10). 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 310 CMR 7.70(10).

6. Ineligibility due to noncompliance. If at any time the Department determines that a project sponsor has not complied with the requirements of 310 CMR 7.70(10), then the Department may revoke and retire any and all CO₂ offset allowances in the project sponsor's account. If at any time the Department determines that an offset project does not comply with the requirements of 310 CMR 7.70(10), then the Department may revoke any approvals it has issued relative to an offset project.

(d) Application process.

1. Establishment of general account. The sponsor of an offset project must establish a general account under 310 CMR 7.70(6)(b)2. All submissions to the Department required for the award of CO₂ offset allowances under 310 CMR 7.70(10) must be from the CO₂ authorized account representative for the general account of the sponsor of the relevant offset project, herein referred to as "project sponsor."

2. Consistency application deadlines.

a. 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.

b. 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 310 CMR 7.70(10)(e)3.j.

c. Any consistency application that fails to meet the deadlines of 310 CMR 7.70(10)(d)2. shall result in the denial of the consistency application and the continued ineligibility of the subject offset project.

3. Consistency application contents.

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

i. The project's sponsor's name, address, email address, telephone number, facsimile transmission number, and account number.

ii. The offset project description as required by the relevant provisions of 310 CMR 7.70(10)(e).

iii. A demonstration that the offset project meets all applicable requirements set forth in 310 CMR 7.70(10).

iv. The emissions baseline determination as required by the relevant provisions of 310 CMR 7.70(10)(e).

v. An explanation of how the projected reduction or avoidance of atmospheric loading of CO₂ or CO₂ equivalent or the sequestration of carbon is to be quantified, monitored, and verified as required by the relevant provisions of 310 CMR 7.70(10)(e).

vi. A completed consistency application agreement that reads as follows:
"The undersigned project sponsor recognizes and accepts that the application for, and the receipt of, CO₂ offset allowances under the CO₂ Budget Trading

Program is predicated on the project sponsor following all the requirements of 310 CMR 7.70(10). 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 CO₂ offset allowances under 310 CMR 7.70(10) is contingent on meeting the requirements of 310 CMR 7.70(10). 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 Massachusetts.”

vii. A list of all offset projects 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) for which a consistency application or a monitoring and verification application has been submitted under 310 CMR 7.70(10), or similar provisions in the rules of other participating states. If any consistency application or monitoring and verification application has been denied or revoked by the Department or any participating state, then such status shall be documented and explained. If any CO₂ offset allowance has been revoked or retired by the Department or any participating state as a result of a determination that a project sponsor has not complied with the requirements of 310 CMR 7.70(10), or similar provisions in the rules of other participating states, then such action shall be documented and explained. The Department reserves the right to reject a consistency application or a monitoring and verification application on the basis of previous fraud, deceit, deception, misrepresentation, submittal of false or misleading information to the Department or other participating states regarding CO₂ emissions offset projects, or a finding under 310 CMR 7.70(10)(c)6. of failure to comply with the requirements of 310 CMR 7.70(10), or similar provisions in the rules of other participating states.

viii. A verification report and certification statement signed by an independent verifier accredited pursuant to 310 CMR 7.70(10)(f) that expresses that the independent verifier has reviewed the entire application and evaluated the following in relation to the applicable requirements at 310 CMR 7.70(10)(c) and (e), and any applicable guidance issued by the Department.

- (i) The adequacy and validity of information supplied by the project sponsor to demonstrate that the offset project meets the applicable eligibility requirements of 310 CMR 7.70(10)(c) and (e).
- (ii) The adequacy and validity of information supplied by the project sponsor to demonstrate baseline emissions pursuant to the applicable requirements at 310 CMR 7.70(10)(e).
- (iii) The adequacy of the monitoring and verification plan submitted pursuant to the applicable requirements at 310 CMR 7.70(10)(e).
- (iv) Such other evaluations and statements as may be required by the Department.

ix. Disclosure of any voluntary or mandatory programs, other than the CO₂ Budget Trading Program, to which greenhouse gas emissions data related to the offset project has been, or will be reported.

x. 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.

xi. The offset project sponsor shall make the following certification: "I certify that I have personally examined the foregoing information, and am familiar with the information contained in this application and any attachments thereto and that, based on my inquiry of those persons immediately responsible for obtaining the information, I believe that the information contained in this application is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including possible fines and imprisonment."

b. Consistency applications shall be submitted in a format approved by the Department.

4. Prohibition against filing consistency applications in more than one participating state. 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 CO₂ equivalent emissions reduction or carbon sequestration due to the offset project is projected to occur in Massachusetts than in any other participating state.

5. Department action on consistency applications.

a. Completeness determination. Within 30 days following receipt of the consistency application filed pursuant to 310 CMR 7.70(10)(d)2., the Department shall 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 310 CMR 7.70(10)(d)5.b.

b. Consistency determination. Within 150 days of making the completeness determination under 310 CMR 7.70(10)(d)5.a., the Department shall issue a determination as to whether the offset project is consistent with the requirements of 310 CMR 7.70(10)(c) and (d) and the requirements of the applicable offset project standard of 310 CMR 7.70(10)(e). For any offset project found to lack consistency with these requirements, the Department shall inform the project sponsor of the offset project's deficiencies.

(e) CO₂ emissions offset project standards.

1. Landfill methane capture and destruction. To qualify for the award of CO₂ offset allowances under 310 CMR 7.70(10), offset projects that capture and destroy methane from landfills shall meet the requirements of 310 CMR 7.70(10)(e)1., and all other applicable requirements of 310 CMR 7.70(10).

a. 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 Part 60, Subpart Cc and Subpart WWW.

b. 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 310 CMR 7.70(10)(e)1.a. The project narrative shall include the following information.

- i. Owner and operator of the offset project;
- ii. Location and specifications of the landfill where the offset project will occur, including waste in place;
- iii. Owner and operator of the landfill where the offset project will occur; and,
- iv. Specifications of the equipment to be installed and a technical schematic of the offset project.

c. Emissions baseline determination. The emissions baseline shall represent the potential fugitive landfill emissions of CH₄ (in tons of CO₂e), as represented by the CH₄ collected and metered for thermal destruction as part of the offset project, and calculated in accordance with 310 CMR 7.70(10)(e)1.c.

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

where:

V = Volume of CH₄ collected (ft³);

M = Mass of CH₄ per cubic foot (0.04246 lbs/ft³ default value at 1 atmosphere and 20 ° C);

OX = Oxidation factor (0.10), representing estimated portion of collected CH₄ that would have eventually oxidized to CO₂ if not collected; and,

GWP = CO₂e global warming potential of CH₄ (25).

d. Calculating emissions reductions. Emissions reductions shall be determined based on potential fugitive CH₄ emissions that would have occurred at the landfill if metered CH₄ collected from the landfill for thermal destruction as part of the offset project was not collected and destroyed. CO₂e emissions reductions shall be calculated as follows:

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

where:

V = Volume of CH₄ collected (ft³);

M = Mass of CH₄ per cubic foot (0.04246 lbs/ft³ default value at 1 atmosphere and 20 ° C);

OX = Oxidation factor (0.10), representing estimated portion of collected CH₄ that would have eventually oxidized to CO₂ if not collected;

C_{ef} = Combustion efficiency of methane control technology (0.98); and,

GWP = CO₂e global warming potential of CH₄ (25).

e. 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 CH₄ concentration. Annual monitoring and verification reports shall include monthly volumetric flow rate and CH₄ concentration data, including documentation that the CH₄ was actually supplied to the combustion source. Monitoring and verification is also subject to the following requirements.

- i. 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 CH₄ 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 310 CMR 7.70(10)(f).

ii. The project sponsor shall annually verify landfill gas CH₄ composition through landfill gas sampling and independent laboratory analysis using applicable U.S. Environmental Protection Agency laboratory test methods.

2. Reduction in emissions of sulfur hexafluoride (SF₆). To qualify for the award of CO₂ offset allowances under 310 CMR 7.70(10), 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 310 CMR 7.70(10)(e)2. and all other applicable requirements of 310 CMR 7.70(10).

a. Eligibility.

i. Eligible offset projects shall consist of incremental actions beyond those taken during the baseline year to achieve a reduction in SF₆ 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 control gear— Part 303: Use and handling of sulfur hexafluoride (SF₆),” (IEC/TR 62271-303 ed1.0), and Electric Power Research Institute (EPRI), “SF₆ Management for Substations,” (1020014, 2010).

ii. Except as provided in 310 CMR 7.70(10)(e)2.a.iii., eligible offset projects shall have an SF₆ entity-wide emissions rate for the baseline year that is less than the applicable emissions rate in Table 1. The entity-wide SF₆ emissions rate shall be calculated as follows:

$$\text{SF}_6 \text{ Emissions Rate (\%)} = (\text{Total SF}_6 \text{ Emissions for Reporting Year}) / (\text{Total SF}_6 \text{ Nameplate Capacity at End of Reporting Year})$$

where:

SF₆ Nameplate Capacity refers to all SF₆ containing equipment owned and/or operated by the entity, at full and proper SF₆ charge of the equipment rather than the actual charge of the equipment (which may reflect leakage).

310 CMR 7.70(10)(e)2.a.ii. Table 1
SF₆ Emissions Rate Performance Standards

A. Emission Regions

<u>Region A</u>	<u>Region B</u>	<u>Region C</u>	<u>Region D</u>	<u>Region E</u>
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. Emissions Rate Performance Standards

<u>Region</u>	<u>Emission Rate^a</u>
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%

^a Based on weighted average 2004 emissions rates for U.S. EPA SF₆ 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.

- iii. An SF₆ offset project shall be eligible even if the SF₆ entity-wide emissions rate in the baseline year exceeds the applicable rate in 310 CMR 7.70(10)(e)2.a.ii., 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 SF₆.
 - (i) The entity is comprised of older than average installed transmission and distribution equipment in relation to the national average age of equipment.
 - (ii) 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 SF₆ emissions through regular ongoing maintenance.

- (iii) The inability to take a substantial portion of equipment out of service, as such activity would impair system reliability.
- (iv) Required equipment purpose or design for a substantial portion of entity transmission and distribution equipment results in inherently leak-prone equipment.

b. 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 310 CMR 7.70(10)(e)2.a. The offset project narrative shall include the following information.

- i. Description of the transmission and/or distribution entity suitable in detail to specify the service territory served by the entity.
- ii. Owner and operator of the transmission and/or distribution entity.

c. Emissions baseline determination. If the consistency application is filed on or after January 1, 2009, baseline SF₆ emissions shall be determined based on annual entity-wide reporting of SF₆ 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 SF₆ in order to determine entity-wide emissions of SF₆. The scope of such tracking and accounting shall include all electric transmission and distribution assets and all SF₆-containing and SF₆-handling equipment owned and/or operated by the reporting entity.

- i. Emissions shall be determined based on the following mass balance method: SF₆ Emissions (lbs.) = (SF₆ Change in Inventory) + (SF₆ Purchases and Acquisitions) – (SF₆ Sales and Disbursements) – (Change in Total SF₆ Nameplate Capacity of Equipment)

where:

Change in Inventory is the difference between the quantity of SF₆ 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 SF₆ gas contained in cylinders (such as 115-pound storage cylinders), gas carts, and other storage containers. It does not refer to SF₆ gas held in SF₆-using operating equipment. The change in inventory will be negative if the quantity of SF₆ gas in storage increases over the course of the year. Purchases and Acquisitions of SF₆ is the sum of all the SF₆ gas acquired from other parties during the reporting year, as contained in storage containers or SF₆-using operating equipment. Sales and disbursements of SF₆ is the sum of all the SF₆ gas sold or otherwise disbursed to other parties during the reporting year, as contained in storage containers and SF₆-using operating equipment. Change in Total SF₆ Nameplate Capacity of Equipment is the net change in the total volume of SF₆-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 shall 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 SF₆ charge of the equipment rather than to the actual charge, which may reflect leakage.

- ii. Emissions shall be calculated as follows:

$$\text{Emissions (tons CO}_2\text{e)} = [(V_{\text{iby}} - V_{\text{iey}}) + (PA_{\text{psd}} + PA_{\text{e}} + PA_{\text{rre}}) - (SD_{\text{op}} + SD_{\text{rs}} + SD_{\text{df}} + SD_{\text{sor}}) - (CNP_{\text{ne}} - CNP_{\text{rse}})] \times \text{GWP}/2000$$

where (all SF₆ values in lbs.):

V_{iby} = SF₆ inventory in cylinders, gas carts, and other storage containers (not SF₆-containing operating equipment) at the beginning of the reporting year;

V_{iey} = SF₆ inventory in cylinders, gas carts, and other storage containers (not SF₆-containing operating equipment) at the end of the reporting year;

PA_{psd} = SF₆ purchased from suppliers or distributors in cylinders;

PA_e = SF₆ provided by equipment manufacturers with or inside SF₆-containing operating equipment;

PA_{rre} = SF₆ returned to the reporting entity after offsite recycling;

SD_{op} = Sales of SF₆ to other parties, including gas left in SF₆-containing operating equipment that is sold;

SD_{rs} = Returns of SF₆ to supplier (producer or distributor);

SD_{df} = SF₆ sent to destruction facilities;

SD_{sor} = SF₆ sent offsite for recycling;

CNP_{ne} = Total SF₆ nameplate capacity of new SF₆-containing operating equipment at proper full charge;

CNP_{rse} = Total SF₆ nameplate capacity of retired or sold SF₆-containing operating equipment at proper full charge; and

GWP = CO₂e global warming potential of SF₆ (22,800).

iii. As part of the consistency application required pursuant to 310 CMR 7.70(10)(d)2. and 3. and in annual monitoring and verification reports required pursuant to 310 CMR 7.70(10)(g)2. and 3., the project sponsor shall provide the documentation required at 310 CMR 7.70(10)(e)2.e.i. through iii. to support emissions calculations.

d. Calculating emissions reductions. Emissions reductions shall represent the annual entity-wide emissions reductions of SF₆ for the reporting entity, relative to emissions in the baseline year. Emissions reductions shall be determined as follows, using the quantification method outlined in 310 CMR 7.70(10)(e)2.c.ii. to determine emissions in both the baseline year and reporting year(s):

Emissions Reduction (tons CO₂e) = (Total Pounds of SF₆ Emissions in Baseline Reporting Year) – (Total Pounds of SF₆ Emissions in Reporting Year) x GWP/2000

where:

GWP = CO₂e global warming potential of SF₆ (22,800).

e. Monitoring and verification requirements. The annual monitoring and verification report shall include supporting material detailing the calculations and data used to determine SF₆ emissions reductions, and shall also provide the following documentation.

i. The project sponsor shall identify a facility(ies) managed by the entity from which all SF₆ gas is procured and disbursed and maintain an entity-wide log of all SF₆ 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 SF₆ or reclaim SF₆ 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 SF₆ 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.

ii. A current entity-wide inventory of all SF₆-containing operating equipment and all other SF₆-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 310 CMR 7.70(10)(f).

iii. The project sponsor shall provide a monitoring and verification plan as part of the consistency application, which shall include an SF₆ 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 310 CMR 7.70(10)(f).

3. Sequestration of carbon due to reforestation, improved forest management or avoided conversion. To qualify for the award of CO₂ offset allowances under 310 CMR 7.70(10), offset projects that involve reforestation, improved forest management or avoided conversion shall meet all requirements of 310 CMR 7.70(10)(e)3. and the forest offset protocol, and all other applicable requirements of 310 CMR 7.70(10).

a. Eligibility. Eligible forest offset projects shall satisfy all eligibility requirements of the forest offset protocol and 310 CMR 7.70(10).

b. 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 310 CMR 7.70(10)(e)3.a. The offset project description must include all information identified in sections 8.1 and 9.1 of the forest offset protocol, and any other information deemed necessary by the Department.

c. Carbon sequestration baseline determination. Baseline onsite carbon stocks shall be determined as required by section 6.1.1, 6.1.2, 6.2.1, 6.2.3, 6.3.1, and 6.3.2 of the forest offset protocol, as applicable.

d. Calculating carbon sequestered. Net GHG reductions and GHG removal enhancements shall be calculated as required by section 6 of the forest offset protocol. The project's risk reversal rating shall be calculated as required by Appendix D of the forest offset protocol.

e. Monitoring and verification requirements. Monitoring and verification is subject to the following requirements.

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

ii. The consistency application shall include a monitoring and verification plan certified by an independent verifier accredited pursuant to 310 CMR 7.70(10)(f). The monitoring and verification plan shall consist of a forest carbon inventory program, as required by section 8.1 of the forest offset protocol.

iii. 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.

f. 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.

g. Prior to the award of CO₂ offset allowances pursuant to 310 CMR 7.70(10)(g), or to any surrender of allowances pursuant to 310 CMR 7.70(10)(e)3.h., any quantity expressed in metric tons, or metric tons of CO₂ equivalent, shall be converted to tons using the conversion factor specified in 310 CMR 7.70(1)(b).

h. Carbon sequestration permanence. The offset project shall meet the following requirements to address reversals of sequestered carbon.

i. Unintentional reversals. Requirements for unintentional reversals are as follows:

(i) 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

(ii) 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.

ii. Intentional reversals. Requirements for intentional reversals are as follows:

(i) If an intentional reversal occurs, the project sponsor shall, within 30 calendar days of the intentional reversal:

-1. Provide notice, in writing, to the Department of the intentional reversal; and

-2. Provide a written description and explanation of the intentional reversal to the Department.

(ii) 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.

iii. If an intentional reversal occurs, and CO₂ offset allowances have been awarded to the offset project, the forest owner must surrender to the Department or its agent for retirement a quantity of CO₂ allowances corresponding to the quantity of CO₂ equivalent tons reversed within six months of notification by the Department.

(i) 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.

(ii) If the forest owner does not surrender valid CO₂ allowances to the Department within six months of notification by the Department, the forest owner will be subject to enforcement action and each CO₂ equivalent ton of carbon sequestration reversed will constitute a separate violation of 310 CMR 7.70 and applicable state law.

iv. Project termination. Requirements for project termination are as follows:

(i) The project sponsor must surrender to the Department or its agent for retirement a quantity of CO₂ allowances in the amount calculated pursuant to project termination provisions in the forest offset protocol within six months of project termination.

(ii) If the project sponsor does not surrender to the Department or its agent a quantity of CO₂ 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 CO₂ offset allowance not surrendered will constitute a separate violation of 310 CMR 7.70 and applicable state law.

v. 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.

i. Timing of forest offset projects. The Department may award CO₂ offset allowances under 310 CMR 7.70(10)(g) only for forest offset projects that are initially commenced on or after January 1, 2014.

j. Projects that have been awarded credits by a voluntary greenhouse gas reduction program. The provisions of 310 CMR 7.70(10)(c)3.d. and (d)2.b. 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 CO₂ Offset Allowances will be calculated pursuant to the requirements of 310 CMR 7.70(10)(e)3., without regard to the quantity of credits that were awarded to the project under the voluntary program.

i. The project satisfies all other general requirements of 310 CMR 7.70(10), including all specific requirements of 310 CMR 7.70(10)(e)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 CO₂ offset allowances pursuant to 310 CMR 7.70(10)(g).

ii. 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 CO₂ offset allowances 310 CMR 7.70(10)(g). Forest offset data reports and monitoring and verification reports must meet all requirements of 310 CMR 7.70(10)(e)3.e. and f.

iii. 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.

(i) 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.

(ii) The project sponsor or voluntary greenhouse gas program has cancelled or retired all credits that were awarded for carbon sequestration that occurred during the time periods for which the project intends to be awarded CO₂ offset allowances pursuant 310 CMR 7.70(10)(g), and such credits were cancelled or retired for the sole purpose of allowing the project to be awarded CO₂ offset allowances pursuant to 310 CMR 7.70(10)(g).

4. Reduction or avoidance of CO₂ emissions from natural gas, oil, or propane end-use combustion due to end-use energy efficiency. To qualify for the award of CO₂ offset allowances under 310 CMR 7.70(10), offset projects that reduce CO₂ emissions

by reducing onsite 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 310 CMR 7.70(10)(e)4. and all other applicable requirements of 310 CMR 7.70(10). 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.

a. Eligibility.

i. Eligible offset projects shall reduce CO₂ emissions through one or more of the following energy conservation measures (ECMs):

- (i) 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;
- (ii) Improvements in the efficiency of heating distribution systems, including proper sizing and commissioning of heating systems;
- (iii) Installation or improvement of energy management systems;
- (iv) Improvement in the efficiency of hot water distribution systems and reduction in demand for hot water;
- (v) Measures that improve the thermal performance of the building envelope and/or reduce building envelope air leakage;
- (vi) Measures that improve the passive solar performance of buildings and utilization of active heating systems using renewable energy; and,
- (vii) Fuel switching to a less carbon-intensive fuel for use in combustion systems, including the use of gaseous eligible biomass, provided that conversions to electricity are not eligible.

ii. Performance standards.

(i) All end-use energy efficiency offset projects. All offset projects under 310 CMR 7.70(10)(e)4. shall meet the applicable performance criteria set forth in 310 CMR 7.70(10)(e)4.a.ii(i).

-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 310 CMR 7.70(10)(e)4.a.ii(i)-1.

-a. 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 and ANSI/ASHRAE Standard 62.2-2010: Ventilation for Acceptable Indoor Air Quality.

-b. 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."

-2. Whole-building energy performance. Eligible new buildings or whole-building retrofits that are part of an offset project shall meet the requirements of 310 CMR 7.70(10)(e)4.a.ii(i)-2.

-a. Commercial buildings shall exceed the energy performance requirements of ANSI/ASHRAE/IESNA Standard 90.1 (SI

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

-b. Residential buildings shall exceed the energy performance requirements of the 2012 International Energy Conservation Code Supplement by 30%.

(ii) 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%.

b. 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 310 CMR 7.70(10)(e)4.a. The offset project narrative shall include the following information.

- i. Location and specifications of the building(s) where the offset project actions will occur;
- ii. Owner and operator of the building(s);
- iii. The parties implementing the offset project, including lead contractor(s), subcontractors, and consulting firms;
- iv. Specifications of equipment and materials to be installed as part of the offset project; and,
- v. Building plans and offset project technical schematics, as applicable.

c. Emissions baseline determination. The emissions baseline shall be determined in accordance with the requirements of 310 CMR 7.70(10)(e)4.c., 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 4 below.

310 CMR 7.70(10)(e)4.c. Table 2 Emissions and Oxidation Factors		
<u>Fuel</u>	<u>Emissions Factor</u> <u>(lbs. CO₂/MMBtu)</u>	<u>Oxidation Factor</u>
Natural Gas	116.98	0.995
Propane	139.04	0.995
Distillate Fuel Oil	161.27	0.99
Kerosene	159.41	0.99

i. 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 310 CMR 7.70(10)(e)4.e.

ii. Annual baseline energy usage shall be determined as follows:

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

where:

BEU_{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 310 CMR 7.70(10)(e)4.e.

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 310 CMR 7.70(10)(e)4.e.

iii. Annual baseline emissions shall be determined as follows:

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

where:

BEU_i = Annual baseline energy usage for fuel type i (MMBtu) demonstrated pursuant to the requirements at 310 CMR 7.70(10)(e)4.e.i. through iv. of 310 CMR 7.70(10)(e)4.;

EF_i = Emissions factor (lbs. CO₂/MMBtu) for fuel type i listed at 310 CMR 7.70(10)(e)4.c., Table 2.; and,

OF_i = Oxidation factor for fuel type i listed at 310 CMR 7.70(10)(e)4.c., Table 2.

d. 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 310 CMR 7.70(10)(e)4.c., Table 2.

i. Annual energy savings shall be determined as follows:

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

where:

BEU_{AECM} = Annual pre-installation baseline energy use by fuel type (MMBtu) calculated pursuant to 310 CMR 7.70(10)(e)4.e.i. through iv.;

PIEU_{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 310 CMR 7.70(10)(e)4.e.i. through iv.;

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 310 CMR 7.70(10)(e)4.e.

ii. 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 310 CMR 7.70(10)(e)4.e.;

EF_i = Emissions factor (lbs. CO₂/MMBtu) for fuel type i listed at 310 CMR 7.70(10)(e)4.c., Table 4.; and,

OF_i = Oxidation factor for fuel type i listed at 310 CMR 7.70(10)(e)4.c., Table 4.

e. 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 310 CMR 7.70(10)(f). Annual monitoring and verification reports shall be certified by an independent verifier accredited pursuant to 310 CMR 7.70(10)(f). 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.

i. 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.

(i) 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 CO₂ emissions offset project, a process consistent with IPMVP “Option C. Whole Facility” may be used, as applicable. Application of the IPMVP general guidance shall be consistent with the applicable detailed specifications in ASHRAE Guideline 142002, Measurement of Energy and Demand Savings.

(ii) 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. Calibrated Simulation.” Application of the IPMVP general guidance shall be consistent with the applicable detailed specifications in ASHRAE Guideline 142002, Measurement of Energy and Demand Savings.

(iii) For existing and new residential buildings, determination of baseline energy usage shall be consistent with the requirements of the RESNET National Home Energy Rating Technical Guidelines, 2006 (Chapter 3 and Appendix A of 2006 Mortgage Industry National Home Energy Rating System Standards) and adopted enhancements dated 2007-2012.

ii. 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 142002, 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 Home Energy Rating Technical Guidelines, 2006 (Chapter 3 and Appendix A of 2006 Mortgage Industry National Home Energy Rating System Standards) and adopted enhancements dated 2007-2012. 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.

iii. 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:

BEU_{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 142002, 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 142002, 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 Home Energy Rating Technical Guidelines, 2006 (Chapter 3 and Appendix A of 2006 Mortgage Industry National Home Energy Rating System Standards) and adopted enhancements dated 2007-2012.

PIEU_{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 142002, 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 142002, 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 consistent with the requirements of RESNET National Home Energy Rating Technical Guidelines, 2006 (Chapter 3 and Appendix A of 2006 Mortgage Industry National Home Energy Rating System Standards) and adopted enhancements dated 2007-2012.

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 142002, 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 Home Energy Rating Technical Guidelines, 2006 (Chapter 3 and Appendix A of 2006 Mortgage Industry National Home Energy Rating System Standards) and adopted enhancements dated 2007-2012.

iv. 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 310 CMR 7.70(10)(f).

5. Avoided methane emissions from agricultural manure management operations. To qualify for the award of CO₂ offset allowances under 310 CMR 7.70(10), offset projects that capture and destroy methane from animal manure and organic food waste using anaerobic digesters shall meet the requirements of 310 CMR 7.70(10)(e)5. and all other applicable requirements of 310 CMR 7.70(10).

a. Eligibility.

i. 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.

ii. 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.

iii. The provisions of 310 CMR 7.70(10)(c)3.b. and c. shall not apply to agricultural manure management offset projects provided either of the following requirements are met.

(i) The offset project is located in a state that has a market penetration rate 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 310 CMR 7.70(10)(d) 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 310 CMR 7.70(10)(d); and,

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 310 CMR 7.70(10)(d).

(ii) 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.

b. 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 310 CMR 7.70(10)(e)5.a. The offset project narrative shall include the following information.

- i. Owner and operator of the offset project;
- ii. Location and specifications of the facility where the offset project will occur;
- iii. Owner and operator of the facility where the offset project will occur;
- iv. Specifications of the equipment to be installed and a technical schematic of the offset project; and,
- v. 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.

c. Emissions baseline determination. The emissions baseline shall represent the potential emissions of the CH₄ 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.

i. Baseline CH₄ emissions shall be calculated as follows:

$$CO_2e \text{ (tons)} = (V_m \times M) / 2000 \times GWP$$

where:

CO_2e = Potential CO_{2e} emissions due to calculated CH₄ production under site-specific anaerobic storage and weather conditions;

V_m = Volume of CH₄ produced each month from degradation 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 (ft³);

M = Mass of CH₄ per cubic foot (0.04246 lb/ft³ default value at one atmosphere and 20°C); and,

GWP = Global warming potential of CH₄ (25).

ii. The estimated amount of volatile solids degraded each month under the uncontrolled anaerobic storage baseline scenario (kg) shall be calculated as follows:

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

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 EPA 160.3 testing method (U.S.EPA Method Number 160.3, Methods for the Chemical Analysis of Water and Wastes (MCAWW) (EPA/600/479/020)); and,

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/600/479/020)).

VS_{avail} = volatile solids available for degradation 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 1/2 is multiplied by this number to represent the average mass of volatile solids available for degradation for the entire duration of the month; and,

VS_{out} = 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 CH₄ per month;

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

T₂ = 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 T₂ > 5 ° C; if T₂ < 5 ° C, then f = 0.104);

T₁ = 303.15 (30 ° C converted to K); and,

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

iii. The volume of CH₄ produced (ft³) from degradation of volatile solids shall be calculated as follows:

$$V_m = (VS_{deg} \times B_o) \times 35.3147 \text{ ft}^3/\text{m}^3$$

where:

V_m = volume of CH₄ (ft³);

VS_{deg} = volatile solids degraded (kg); and,

B_o = manure or organic food waste type-specific maximum methane generation constant (m³ CH₄/kg VS degraded). For dairy cow manure, B_o = 0.24 m³ CH₄/kg VS degraded. 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, Table A-162 (U.S. EPA, April 2012), unless the project sponsor proposes an alternate methane generation constant. 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.

d. Calculating emissions reductions. Emissions reductions shall be determined based on the potential emissions (in tons of CO₂e) of the CH₄ that would have been produced in the absence of the offset project under a baseline scenario that represents uncontrolled anaerobic storage conditions, as calculated pursuant to 310 CMR 7.70(10)(e)5.c.i. through iii., and released directly to the atmosphere. Emissions reductions may not exceed the potential emissions of the anaerobic digester, as represented by the annual volume of CH₄ produced by the anaerobic digester, as monitored pursuant to 310 CMR 7.70(10)(e)5.e. If the project is a regional-type digester, CO₂ 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 310 CMR 7.70(10)(e)5.c.i. through iii. Transport CO₂ emissions shall be determined through one of the following methods.

i. Documentation of transport fuel use for all shipments of manure and organic food waste from offsite to the anaerobic digester during each reporting year and a log of transport miles for each shipment. CO₂ 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.

(i) Diesel fuel: 22.912 lbs. CO₂/gallon.

(ii) Gasoline: 19.878 lbs. CO₂/gallon.

(iii) Other fuel: submitted emissions factor approved by the Department.

ii. Documentation of total tons of manure and organic food waste transported from offsite for input into the anaerobic digester during each reporting year, as monitored pursuant to 310 CMR 7.70(10)(e)5.e.i., and a log of transport miles and fuel type used for each shipment. CO₂ 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.

(i) Diesel fuel: 0.131 lbs. CO₂ per ton-mile.

(ii) Gasoline: 0.133 lbs. CO₂ per ton-mile.

(iii) Other fuel: submitted emissions factor approved by the Department.

e. Monitoring and verification requirements. Offset projects shall employ a system that provides metering of biogas volumetric flow rate and determination of CH₄ concentration. Annual monitoring and verification reports shall include monthly biogas volumetric flow rate and CH₄ concentration determination.

Monitoring and verification shall also meet the following requirements.

i. 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 shall 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 310 CMR 7.70(10)(e)5.c. and e.iii., 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.

ii. If the offset project includes the digestion of organic food waste eligible pursuant to 310 CMR 7.70(10)(e)5.a.ii., organic food waste shall be sampled monthly to determine the amount of volatile solids present before digestion, consistent with the requirements at 310 CMR 7.70(10)(e)5.c. and e.iii., and apportioned accordingly.

iii. 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 CH₄ composition. The monitoring and verification plan shall be specified in accordance with the applicable monitoring requirements listed in Table 3, below. 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 310 CMR 7.70(10)(f).

310 CMR 7.70(10)(e)5.e.iii. Table 3

Input Monitoring Requirements

Input Parameter	Measurement Unit	Frequency of Sampling	Sampling Method(s)
Influent flow (mass) into the digester	Kilograms (kg) per month (wet weight)	Monthly total into the digester	a) Recorded weight 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

iv. The project sponsor shall verify biogas CH₄ composition quarterly through gas sampling and third party laboratory analysis using applicable U.S. EPA test methods.

(f) Accreditation of independent verifiers.

1. Standards for accreditation. Independent verifiers may be accredited by the Department to provide verification services as required of project sponsors under 310 CMR 7.70(10), provided that independent verifiers meet all of the requirements of 310 CMR 7.70(10)(f).

a. Verifier minimum requirements. Each accredited independent verifier shall demonstrate knowledge of the following topics:

- i. utilizing engineering principles;
- ii. quantifying greenhouse gas emissions;
- iii. developing and evaluating air emissions inventories;
- iv. auditing and accounting principles;

- v. knowledge of information management systems;
 - vi. knowledge of the requirements of 310 CMR 7.70(10) and other applicable requirements of 310 CMR 7.70; and
 - vii. such other qualifications as may be required by the Department to provide competent verification services as required for individual offset categories specified at 310 CMR 7.70(10)(e).
- b. Organizational qualifications. Accredited independent verifiers shall demonstrate that they meet the following requirements:
- i. 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;
 - ii. Verifiers shall employ staff with knowledge, experience, and, where appropriate, professional licenses relevant to the specific category(ies) of offset projects at 310 CMR 7.70(10)(e) that they seek to verify;
 - iii. 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,
 - iv. 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 310 CMR 7.70(10)(d)5., and remedy any such conflicts of interest prior to providing verification services.
- c. Prequalification 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.
2. Application for accreditation. An application for accreditation shall not contain any proprietary information, and shall include, on a form prescribed by the Department, the following:
- a. The applicant's name, address, email address, telephone number, and facsimile transmission number;
 - b. Documentation that the applicant has at least two years of experience in each of the knowledge areas specified at 310 CMR 7.70(10)(f)1.a.i. through v., and as may be required pursuant to 310 CMR 7.70(10)(f)1.a.vii.;
 - c. Documentation that the applicant has successfully completed the requirements at 310 CMR 7.70(10)(f)1.c., as applicable;
 - d. A sample of at least one work product that provides supporting evidence that the applicant meets the requirements at 310 CMR 7.70(10)(f)1.a. and b. 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;
 - e. Documentation that the applicant holds professional liability insurance as required pursuant to 310 CMR 7.70(10)(f)1.b.iii.; and

- f. 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 310 CMR 7.70(10)(f)1.b.iv.
3. Department action on applications for accreditation. The Department shall approve or deny a complete application for accreditation within 90 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.
4. Reciprocity. Independent verifiers accredited in other participating states may be deemed to be accredited in Massachusetts, at the discretion of the Department.
5. Conduct of accredited verifiers.
- a. 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.
 - b. 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.
 - c. The Department may reject a verification report and certification statement from an accredited verifier, submitted as part of a consistency application required pursuant to 310 CMR 7.70(10)(d)2. or submitted as part of a monitoring and verification report submitted pursuant to 310 CMR 7.70(10)(g)2., if the Department determines that the accredited verifier has a conflict of interest related to the offset project, offset project developer, or project sponsor.
 - d. The Department may revoke the accreditation of a verifier at any time given cause, for the following:
 - i. 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;
 - ii. The verifier is no longer qualified due to changes in staffing or other criteria;
 - iii. Negligence or neglect of responsibilities pursuant to the requirements of 310 CMR 7.70(10); and,
 - iv. Intentional misrepresentation of data or other intentional fraud.

(g) Award and Recordation of CO₂ offset allowances.

1. Quantities of CO₂ offset allowances awarded, and subsequently recorded.
 - a. Award of CO₂ offset allowances for CO₂ emissions offset projects. Following the issuance of a consistency determination under 310 CMR 7.70(10)(d)5.b. and the approval of a monitoring and verification report under the provisions of 310 CMR 7.70(10)(g)5., the Department shall award one CO₂ offset allowance for each ton of demonstrated reduction in CO₂ or CO₂ equivalent emissions or sequestration of CO₂.
 - b. Recordation of CO₂ offset allowances. After CO₂ offset allowances are awarded under 310 CMR 7.70(10)(g)1.a., the Department shall record such CO₂ offset allowances in the project sponsor's general account.

2. Deadlines for submittal of monitoring and verification reports.
 - a. For CO₂ emissions offset projects undertaken prior to January 1, 2009, the project sponsor must submit the monitoring and verification report covering the pre-2009 period on or before June 30, 2009.
 - b. For CO₂ 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 CO₂ equivalent reductions or sequestration of CO₂ for which the project sponsor seeks the award of CO₂ offset allowances.
3. Contents of monitoring and verification reports. For an offset project, the monitoring and verification report shall include the following information.
 - a. The project's sponsor's name, address, email address, telephone number, facsimile transmission number, and account number.
 - b. The CO₂ emissions reduction or CO₂ sequestration determination as required by the relevant provisions of 310 CMR 7.70(10)(e), including a demonstration that the project sponsor complied with the required quantification, monitoring, and verification procedures under 310 CMR 7.70(10)(e), as well as those outlined in the consistency application approved pursuant to 310 CMR 7.70(10)(d)5.b.
 - c. 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 310 CMR 7.70(10). 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 CO₂ offset allowances under 310 CMR 7.70(10) is contingent on meeting the requirements of 310 CMR 7.70(10). 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 Massachusetts."
 - d. A list of all offset projects 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) for which a consistency application or a monitoring and verification application has been submitted under 310 CMR 7.70(10), or similar provisions in the rules of other participating states. If any consistency application or monitoring and verification application has been denied or revoked by the Department or any participating state, then such status shall be documented and explained. If any CO₂ offset allowance has been revoked or retired by the Department or any participating state as a result of a determination that a project sponsor has not complied with the requirements of 310 CMR 7.70(10), or similar provisions in the rules of other participating states, then such action shall be documented and explained. The Department reserves the right to reject a consistency application or a monitoring and verification application on the basis of previous fraud, deceit, deception, misrepresentation, submittal of false or misleading information to the Department or other participating states regarding CO₂ emissions offset projects, or a finding under

- 310 CMR 7.70(10)(c)6. of failure to comply with the requirements of 310 CMR 7.70(10), or similar provisions in the rules of other participating states.
- e. A verification report and certification statement signed by an independent verifier accredited pursuant to 310 CMR 7.70(10)(f) that documents that the independent verifier has reviewed the monitoring and verification report and evaluated the following in relation to the applicable requirements at 310 CMR 7.70(10)(e), and any applicable guidance issued by the Department:
- i. The adequacy and validity of information supplied by the project sponsor to determine CO₂ emissions reductions or CO₂ sequestration pursuant to the applicable requirements at 310 CMR 7.70(10)(e);
 - ii. The adequacy and consistency of methods used to quantify, monitor, and verify CO₂ emissions reductions and CO₂ sequestration in accordance with the applicable requirements at 310 CMR 7.70(10)(e) and as outlined in the consistency application approved pursuant to 310 CMR 7.70(10)(d)5.b.; and,
 - iii. 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 310 CMR 7.70(10)(e).
- f. Disclosure of any voluntary or mandatory programs, other than the CO₂ Budget Trading Program, to which greenhouse gas emissions data related to the offset project has been, or will be reported.
- g. 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.
- h. The offset project sponsor shall make the following certification: "I certify that I have personally examined the foregoing information, and am familiar with the information contained in this application and any attachments thereto and that, based on my inquiry of those persons immediately responsible for obtaining the information, I believe that the information contained in this application, is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including possible fines and imprisonment."
- i. Monitoring and verification reports shall be submitted in a format approved by the Department.
4. Prohibition against filing monitoring and verification reports in more than one participating state. Monitoring and verification reports may only be filed under 310 CMR 7.70(10)(g) for projects that have received consistency determinations under 310 CMR 7.71(10)(d)5.b. Monitoring and verification reports may not be filed under 310 CMR 7.71(10)(g) for projects that have received consistency determinations in other participating states.
5. Department action on monitoring and verification reports. The Department shall approve or deny a complete monitoring and verification report, in a format approved by the Department, filed with the Department pursuant to 310 CMR 7.70(10)(g)4., within 90 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 310 CMR 7.70(10)(g).