**ENVIRONMENTAL PROTECTION**
**ENVIRONMENTAL REGULATION**
**Air Quality Management**
**$CO_2$ Budget Trading Program**

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| **Proposed Amendments:** | **N.J.A.C. 7:27-22.16 and 7:27A-3.2 and 3.10.** |
| **Proposed New Rules:** | **N.J.A.C. 7:27-22.28 and N.J.A.C. 7:27C** |
| Authorized By: | Lisa P. Jackson, Commissioner, Department of Environmental Protection. |
| Authority: | N.J.S.A. 13:1B-3(e), 13:1D-9 and 26:2C-1 et seq., particularly 26:2C-45 et seq. |
| Calendar Reference: | See Summary below for explanation of exception to calendar requirement. |
| DEP Docket Number: | 07-08-06/662 |
| Proposal Number: | PRN 2008-233 |

A **public hearing** concerning this rule proposal will be held on:
Thursday, August 14, 2008 at 10:00 A.M. at:
New Jersey Department of Environmental Protection
Hearing Room, 1st Floor
401 East State Street
Trenton, New Jersey 08625

Directions to the hearing room may be found at the Department's website address http://www.state.nj.us/dep/where.htm.

Submit written comments by September 5, 2008 to:
Alice A. Previte, Esq.
Attention: DEP Docket No. 07-08-06/662
Office of Legal Affairs
New Jersey Department of Environmental Protection
401 East State Street
PO Box 402
Trenton, NJ 08625-0402

Written comments may also be submitted at the public hearing. It is requested (but not required) that anyone submitting oral testimony at the public hearing provide a copy of any prepared text to the stenographer at the hearing.

The Department of Environmental Protection (Department) requests that commenters submit comments on disk or CD as well as on paper. Submittals on disk or CD must not be access-restricted (locked or read-only) in order to facilitate use by the Department of the electronically submitted comments. Microsoft Word 6.0 or above is preferred. Macintosh formats should not be used. Each comment should be identified by the applicable N.J.A.C. citation, with the commenter's name and affiliation following the comment.

This rule proposal can be viewed or downloaded from the Department's website at http://www.state.nj.us/dep.

The agency proposal follows:

## Summary

Since the Department has provided a 60-day comment period on this proposal, the proposal is excepted from the rulemaking calendar requirement pursuant to N.J.A.C. 1:30-3.3(a)5.

The proposed new rules and amendments establish the New Jersey $CO_2$ Budget Trading Program, New Jersey's component of a broader regional $CO_2$ Budget Trading Program cap-and-trade program for the electric power sector comprised of consistent companion rules in nine other states, all of which are based on a model rule.

The Regional Greenhouse Gas Initiative (RGGI) is an ongoing effort, commenced in September 2003, among Northeast and Mid-Atlantic States to develop and implement a regional $CO_2$ cap-and-trade program aimed at stabilizing and then reducing $CO_2$ emissions from large fossil fuel-fired electricity generating units in the region. New Jersey is a signatory state to the RGGI Memorandum of Understanding (MOU), whereby the State committed to pursuing the promulgation of a carbon dioxide ($CO_2$) cap-and-trade program substantially as reflected in the RGGI Model Rule. As of May 2008, MOU signatory states are Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island, and Vermont. These states have committed to promulgate regulations implementing the $CO_2$ Budget Trading Program in their state, and are referred to in the proposed new rules as participating states

Overview

The proposed new rules are based on the Model Rule developed by the participating states. The Model Rule was developed by the RGGI Staff Working Group, comprised of staff members from the environmental and energy regulatory agencies in each participating state. This effort was supported by an extensive regional stakeholder process that engaged the regulated community, environmental non-profits, and other organizations with technical expertise in the design of cap-and-trade programs.

The Model Rule provides states flexibility in adopting provisions regarding applicability and source exemptions, allowance allocations and allowance set-asides, and permitting. With the exception of those portions of the Model Rule where states are provided with discretion, the proposed new rules are materially consistent with the Model Rule. This consistency is necessary to ensure $CO_2$ allowance reciprocity across the participating states, which provides for the regional trading of $CO_2$ allowances and the use of a $CO_2$ allowance issued in one participating state for compliance by a regulated source in another participating state.

To a large extent, the initial template for the proposed new rules is the United States Environmental Protection Agency's (USEPA's) rules for the $NO_X$ Budget Trading Program and the Clean Air Interstate Rule (CAIR) $NO_X$ and $SO_2$ Trading Programs at 40 CFR Part 96 (the Part 96 rule). The Part 96 rule was the starting point for development of Model Rule provisions addressing the basic administrative functioning of the $CO_2$ Budget Trading Program, such as the process for establishing compliance and general accounts, identifying authorized account representatives, submission of compliance certification, allowance tracking system operation, and allowance transfers). In addition, the emissions monitoring and reporting requirements for the $CO_2$ Budget Trading Program in the Model Rule rely in part on USEPA's rules for emissions monitoring and reporting at 40 CFR Part 75.

The major components of the New Jersey $CO_2$ Budget Trading Program are discussed below.

Applicability

The proposed new rules apply to fossil fuel-fired electric generating units 25 megawatts (MW) or larger. Such a unit is called a $CO_2$ budget unit. Once a unit triggers applicability under the rules, that unit will remain subject to the program, regardless of subsequent modifications to the unit. Regionally, units of this size are responsible for approximately 95 percent of $CO_2$ emissions from the electric generation sector.

The criterion used to designate a unit as fossil fuel-fired depends on when it commences operation. A unit that commences operation on or after January 1, 2005 is considered fossil fuel-fired, provided that fossil fuel comprises more than five percent of its total annual heat input during any year. A unit that commenced operation prior to January 1, 2005 is considered to be fossil fuel-fired if fossil fuel comprises more than 50 percent of its total annual heat input during any year.

Any fossil fuel-fired electric generating unit 25 MW or larger that has an operating permit containing a condition that restricts the supply of the unit's annual electric output to the electric grid to no more than 10 percent of the unit's annual gross electricity generation is exempt from the $CO_2$ Budget Trading Program. The exemption from the program is effective as of the January 1 that is on or after the date on which such a restriction in an operating permit becomes final. Owners and operators of exempted units are required to report to the Department the unit's annual gross electricity generation and the amount of annual gross electricity generation supplied by the unit to the electricity grid. An exempt unit will lose its exemption if the limitation on the amount of annual gross electricity generation that may be supplied to the electricity grid is removed from the operating permit, or if the unit fails to comply with the required electricity generation reporting requirements.

Compliance

A $CO_2$ allowance represents a limited authorization by the Department or a participating state to emit one ton of $CO_2$. Within two months after the end of a control period, a $CO_2$ budget

source must have sufficient $CO_2$ allowances in its compliance account to cover the amount of its reported $CO_2$ emissions for the control period. This $CO_2$ emissions compliance requirement is referred to as the "$CO_2$ budget emissions limitation." The proposed rules establish a three-year control period, which may be extended to four years if a stage-two price trigger is in effect (see "Price Triggers" below). The first control period will begin January 1, 2009.

The proposed new rules allow a budget source to use $CO_2$ offset allowances to meet a portion of its compliance obligation (see "Offsets" below). The number of $CO_2$ offset allowances that a $CO_2$ budget source may use for compliance is dependent on whether a stage-one or stage-two price trigger is in effect (see discussion of "Price Triggers" below).

The proposed rules allow for the use of certain alternative fuels. If a $CO_2$ budget source fires eligible biomass fuel, it may deduct the $CO_2$ emissions resulting from the combustion of eligible biomass from the source's $CO_2$ emissions compliance obligation. For those emissions, then, no $CO_2$ allowances are required. The proposed rules define eligible biomass and require monitoring $CO_2$ emissions from the combustion of eligible biomass, in order to account for such $CO_2$ emissions when determining a $CO_2$ budget source's $CO_2$ budget emissions limitation.

Emissions Reduction Requirement

In signing the MOU, the participating states agreed to stabilize power sector $CO_2$ emissions over the first six years of program implementation (2009 through 2014) at a level roughly equal to current emissions, before initiating an emissions decline of 2.5 percent per year for the four years 2015 through 2018. This approach will result in a 2018 annual emissions budget that is 10 percent smaller than the initial 2009 annual emissions budget. The initial regional cap is 188 million short tons of $CO_2$ per year, which is approximately four percent above annual average regional emissions during the period 2000 through 2004 for electric generating units that will be subject to the program.

This phased approach, with initially modest emissions reductions, is intended to provide market signals and regulatory certainty so that electricity generators begin planning for, and investing in, lower-carbon alternatives throughout the region, but without creating dramatic wholesale electricity price impacts and attendant retail electricity rate impacts. The MOU apportions $CO_2$ allowances among participating states through a process that was based on historical emissions and negotiation among the signatory states. Together, the emissions budgets of each participating state comprise the regional emissions budget, or RGGI "cap." The regional emissions budget and the New Jersey emissions budget are specified in Tables 1 and 2 below.

Table 1. Regional $CO_2$ Emissions Budget

| Year | Regional Annual $CO_2$ Emissions Budget (short tons of $CO_2$) |
|---|---|
| 2009-2014 | 188,076,976 |
| 2015 | 183,375,052 |
| 2016 | 178,673,127 |

| | |
|---|---|
| 2017 | 173,971,203 |
| 2018 | 169,269,278 |

Table 2. New Jersey $CO_2$ Emissions Budget

| Year | New Jersey Annual $CO_2$ Emissions Budget (short tons of $CO_2$) |
|---|---|
| 2009-2014 | 22,892,730 |
| 2015 | 22,320,412 |
| 2016 | 21,748,094 |
| 2017 | 21,175,775 |
| 2018 | 20,603,457 |

Permitting

The proposed new rules require $CO_2$ budget sources to incorporate the requirements of the $CO_2$ Budget Trading Program into the source's operating permit, and require the incorporation of a compliance plan into the operating permit that includes record keeping and reporting requirements necessary to assure compliance with the applicable requirements of the program. In particular, the compliance plan defines $CO_2$ emissions and net energy output monitoring procedures for a particular $CO_2$ budget source, in accordance with the monitoring and reporting requirements of the program.

Allowance Distribution

The proposed new rules contain provisions that specify the procedures for the allocation of $CO_2$ allowances through auction, sale, and direct allocation, as appropriate, as described below (see "Fixed-Price Allowance Sales" and "Direct Allocation to Cogeneration Units").

The $CO_2$ Budget Trading Program takes an innovative approach to the allocation of allowances. Historically, cap-and-trade programs have allocated allowances directly to regulated emissions sources. Instead of allocating all of the allowances directly to electric generators at no cost, the Department proposes auctioning or selling the majority of $CO_2$ allowances. The Department is proposing this approach because the $CO_2$ Budget Trading Program is being implemented in a region with competitive wholesale electricity markets. In a competitive wholesale electricity market, electric generators, by incorporating the market price of $CO_2$ allowances into the price they bid into the wholesale electricity market, pass through the market value of $CO_2$ allowances into the wholesale market price of electricity, whether the allowances were received at no cost or were purchased. This is due to the fact that allowances can be traded to other parties and, therefore, have a market value. Generators expend an asset – emission allowances – when generating electricity. As such, the use of freely allocated allowances has an "opportunity cost," since revenue from the potential sale of the allowance is foregone. In a competitive wholesale market, generators therefore pass on the cost of allowances as a cost of generating electricity, whether allowances were received for free or were purchased. Given the market context in which the $CO_2$ Budget Trading Program, the Department believes that an allocation approach that includes the auctioning of the majority of $CO_2$ allowances is warranted.

The Department proposes to use $CO_2$ allowance value, through proceeds from the auction and sale of $CO_2$ allowances, to provide incentives for end-use energy efficiency and other measures that reduce the demand for fossil fuel-fired electric generation, thus lowering $CO_2$ allowance prices and the impact of the program on electricity consumers. The overview outlined here, and in the Economic Impact below, is prospective and illustrative, pending further rulemaking by the Department pursuant to N.J.S.A. 26:2C-52, in order to demonstrate the economic benefits that will accrue through an allowance allocation approach that utilizes $CO_2$ allowance value to reduce electricity demand. N.J.S.A. 26:2C-52 requires the Department, in consultation with the Economic Development Authority and the Board of Public Utilities, to establish guidelines and a priority ranking system to assist in annually allocating funds to eligible projects and programs. N.J.S.A. 26:2C-51 outlines the purposes for which allowance revenue may be used.

Allowance Auction

The proposed new rules would result in the auction or sale of up to 99 percent of the annual New Jersey $CO_2$ emissions budget, less any $CO_2$ allowances sold or allocated directly to certain $CO_2$ budget units (see "Fixed-Price Allowance Sales" and "Direct Allocation to Cogeneration Units" below). The proposed procedures and requirements are consistent with the requirements specified at N.J.S.A 26:2C-47. Revenue from the auction of allowances will be deposited in the Global Warming Solutions Fund, established in accordance with N.J.S.A. 7:26:2C-50.

The Department intends to administer $CO_2$ allowance auctions in cooperation with the other participating states, resulting in a single regional auction for $CO_2$ allowances, which the Department intends to hold quarterly. Auctions would be open to participation by any market participants that meet auction qualification requirements and submit financial security in an approved form. The Department could close auctions to compliance entities (owners and operators of $CO_2$ budget units located in New Jersey and other participating states) if market conditions warrant such limitation, in order to maintain $CO_2$ allowance availability to compliance entities and ensure a well-functioning $CO_2$ allowance market.

Prospective auction participants must submit a qualification application to the Department and become qualified to participate in $CO_2$ allowance auctions. Qualified parties must also submit acceptable financial security prior to being approved by the Department to participate in a specific $CO_2$ allowance auction. In auctions that the Department conducts, any one bidder or a group of bidders with related beneficial interests will be allowed to purchase no more than 25 percent of the allowances available for sale in any one auction. Beneficial interest is defined in the proposed new rules as any profit, benefit, or advantage resulting from the ownership of a $CO_2$ allowance. The purchase of $CO_2$ allowances would also be limited to the amount of financial security submitted by a qualified auction participant. In this way, the Department intends that the allowances from any one auction are divided among several participants, rather than being purchased by a single bidder or related group of bidders.

Fixed-Price Allowance Sales

Consistent with the requirements at N.J.S.A. 26:2C-48, there is proposed an annual direct sale of $CO_2$ allowances at a price of $2.00 per allowance to $CO_2$ budget units located in New Jersey that meet the criteria of a "dispatch agreement facility." A "dispatch agreement facility" is a $CO_2$ budget source that is a cogeneration facility or a facility that has a heat rate of less than 8,100 Btu per kWh that is also subject to a power purchase agreement with certain provisions, including an inability of the owner or operator to pass on $CO_2$ allowance costs to the power purchaser and the ability of the power purchaser to control the dispatch of the $CO_2$ budget source. The Department anticipates that four $CO_2$ budget sources in New Jersey would likely meet the criteria of a dispatch agreement facility. In 2004, these units accounted for 29 percent of the $CO_2$ emissions from sources that would be subject to the $CO_2$ Budget Trading Program.

To be eligible to receive a fixed-price $CO_2$ allowance sale offer from the Department, the owners or operators of a dispatch agreement facility are required to submit an affidavit to the Department that certifies that the $CO_2$ budget source meets the criteria of a dispatch agreement facility. The proposed new rules specify the procedures for submitting an affidavit to the Department certifying a $CO_2$ budget source as a dispatch agreement facility and the procedures for purchasing $CO_2$ allowances from the Department through a fixed-price sale offer. Revenue from the sale of allowances through such an offer will be deposited in the Global Warming Solutions Fund established pursuant to N.J.S.A. 26:2C-50.

Direct Allocation to Cogeneration Units

The proposed new rules provide for the direct allocation of $CO_2$ allowances to $CO_2$ budget units that are cogeneration units and that meet specified thermal efficiency requirements. Cogeneration units that meet a thermal efficiency of 42.5 to 45 percent, depending on the type of cogeneration unit and its operating profile, are eligible to receive an allocation of $CO_2$ allowances for the 2009 through 2011 allocation years, related to the heat input used to generate useful steam. Cogeneration units that meet a thermal efficiency of 60.0 percent are eligible to receive an allocation of $CO_2$ allowances for the 2012 and subsequent allocation years, related to the heat input used to generate useful steam. Cogeneration units that meet a thermal efficiency of 70.0 percent are eligible to receive an allocation of $CO_2$ allowances for the 2009 and subsequent allocation years for the $CO_2$ emissions during the allocation year.

Allowance Set-Aside for Voluntary Renewable Energy Purchases

The Department proposes to set-aside of one percent of the annual $CO_2$ emissions budget to support the functioning of the voluntary renewable energy market. The proposed rules are intended, in part, to promote the voluntary purchase of electricity generated from renewable energy that has a demonstrated greenhouse gas emissions reduction benefit. Accordingly, the Department proposes to allow retirement of $CO_2$ allowances from a voluntary renewable energy market set-aside account. The Department proposes to retire $CO_2$ allowances from this account based on a demonstration of voluntary sales to New Jersey electricity ratepayers of electricity generated from renewable energy or the sales of renewable energy attribute credits (an attribute credit represents the environmental and other attributes from one megawatt-hour of electricity generation from a renewable energy source) and a determination by the Department of the avoided $CO_2$ emissions related to such sales. The proposed new rules define voluntary

renewable energy purchases as those for which the renewable energy generation related to the purchases was not used to meet a regulatory mandate, such as a state renewable portfolio standard.

Imposing a cap on $CO_2$ creates incentives for generating electricity in ways that do not emit carbon dioxide, such as from renewable energy resources. However, in a capped environment, the development of new renewable electric generation facilities does not necessarily reduce the emissions of carbon dioxide associated with electric generation. This is because the production of electricity by non-carbon emitting sources does not lower the cap and the number of allowances available. Therefore, electric generators can continue to emit $CO_2$ as long as $CO_2$ allowances are available. Additional electric generation from renewable energy sources would make it easier for $CO_2$-emitting electric generators to meet the cap by avoiding $CO_2$ emissions and reducing the demand for $CO_2$ allowances. However, electric generators could still emit $CO_2$ up to the level of the cap, or bank $CO_2$ allowances for future use. Consequently, increased renewable energy generation would help achieve the emissions cap at lower cost, but would not necessarily result in lower overall $CO_2$ emissions. This dynamic precludes renewable energy marketers from stating unequivocally that voluntary renewable energy purchases can be used to offset a purchaser's $CO_2$ emissions, a quality that is often highlighted to consumers when marketing such products.

To remedy this situation, the Department proposes to allow retirement of $CO_2$ allowances in an amount equivalent to the avoided $CO_2$ emissions resulting from voluntary purchases of qualified renewable energy. A renewable energy purchase would qualify for this $CO_2$ allowance retirement if it represents a voluntary purchase of eligible renewable energy by a retail customer in New Jersey. The energy purchased in New Jersey must have been generated in a participating state, and may not be used for compliance with renewable portfolio standards in a participating state or any other state. The Department would retire allowances based on a formula that takes into account the annual marginal or average $CO_2$ emission rate for electric generation in the applicable independent system operator (ISO) region where the electricity generation occurred, and the number of MWhs of generation represented by the retail sale.

Award of Early Reduction Allowances

As an incentive for facilities to reduce $CO_2$ emissions prior to the beginning of the first control period (January 1, 2009), the Department proposes to allow for the award of "early reduction allowances" (ERAs) in addition to the established $CO_2$ emissions budget. To be eligible to receive ERAs, a $CO_2$ budget source must demonstrate an absolute reduction in $CO_2$ emissions during the early reduction period (the three years 2006, 2007, and 2008), relative to the baseline period (the three years 2003, 2004, and 2005). A facility must also demonstrate a reduction in the average $CO_2$ emissions rate resulting from electric energy output and useful thermal energy output for all the $CO_2$ budget units at the $CO_2$ budget source during the early reduction period, relative to the baseline period. Facility shutdowns are not eligible for ERAs.

Temporal Flexibility Mechanisms

The proposed new rules include a number of temporal flexibility mechanisms. These include the unrestricted banking of $CO_2$ allowances, a three-year compliance period that can be

extended in the event of certain allowance price triggers, and early reduction allowances, as discussed above.

The Department proposes to allow sources to bank $CO_2$ allowances for use in meeting compliance obligations in a future control period. Allowance banking will support $CO_2$ allowance price stability, while providing an incentive for regulated sources to hedge future year emissions uncertainty. Multi-year compliance periods will provide regulated sources with more flexibility to adjust to variations in electricity demand (driven by meteorology and load growth), fuel price spikes, clean unit outages, and other market occurrences or conditions that could impact $CO_2$ emissions and the short-term demand for $CO_2$ allowances.

Price Triggers

Price trigger provisions that the Department proposes will provide additional compliance flexibility and price dampening in the event of higher $CO_2$ allowance prices in two distinct stages. The proposed new rules refer to a "stage-one trigger event," and a "stage-two trigger event." A stage-one trigger event occurs if the 12-month rolling average $CO_2$ allowance price is equal to or greater than the stage-one trigger price ($7.00 in 2005 dollars, adjusted annually based on changes in the consumer price index (CPI)). Should a stage-one trigger event occur, $CO_2$ budget units will be able to expand their use of $CO_2$ offset allowances from 3.3 percent of their compliance obligation to five percent of their compliance obligation.

A stage-two trigger event occurs if the 12-month rolling average $CO_2$ allowance price is equal to or greater than the stage-two trigger price ($10.00 in 2005 dollars, adjusted annually based on the change in the CPI plus two percent). A stage-two trigger event would allow a $CO_2$ budget unit to use $CO_2$ offset allowances to satisfy 10 percent of its compliance obligation, and would expand offset eligibility to include international carbon credits. A stage-two trigger event would also extend the control period from three years to four years.

The price trigger provisions include a 14 month market-settling period, which commences at the start of each new control period. The 12-month rolling averages used to calculate the stage-one and stage-two trigger prices cannot include the 14-month market-settling period. Therefore, the earliest that either trigger event would occur is 26 months after the commencement of a control period (the 14 month market-settling period, plus an additional 12 months to calculate the rolling average price). These provisions are intended to reduce market volatility by allowing the market to adjust and respond to any price movements before the Department allows for an expansion of the supply of $CO_2$ allowances.

The Department will perform calculations of trigger prices, and determine whether or not a stage-one or stage two-trigger event has occurred in consultation with the regulatory agencies in other participating states.

Emissions Monitoring

Under the proposed rules, the owners and operators of each $CO_2$ budget unit must install and certify monitoring systems and collect, record, quality-assure and report data necessary to quantify $CO_2$ mass emissions from that unit. The emissions monitoring and reporting provisions

rely, in large part, on the monitoring provisions established by USEPA at 40 CFR Part 75, and contain many specific references to these Federal provisions.

Those sources that are subject to the proposed New Jersey $CO_2$ Budget Trading Program and are also subject to the Federal Acid Rain Program are already required by USEPA acid rain rules to monitor, record, and report $CO_2$ mass emissions annually. Those sources subject to $CO_2$ Budget Trading Program that are not acid rain sources are subject to the Clean Air Interstate Rule, 40 CFR Part 96, and N.J.A.C. 7:27-30, which requires sources to report mass emissions of $SO_2$ and $NO_X$ on an annual basis. Since the equipment necessary to monitor emissions of $SO_2$ and $NO_X$ and the data collected to support the monitoring of such emissions can also be utilized to monitor $CO_2$ mass emissions, the Department anticipates that $CO_2$ budget sources will need to make only minor modifications to existing monitoring systems in order to monitor $CO_2$ emissions. The Federal rule at 40 CFR Part 75 provides significant flexibility to sources in determining the best applicable monitoring approach, depending on the characteristics of the source and its operating profile.

The proposed new rules include deadlines and procedures for the initial certification, and, under certain circumstances, recertification of continuous emission monitoring systems. Sources subject to the Federal Acid Rain Program that have already certified $CO_2$ monitoring systems will not require initial certification, but may require recertification if, for example, changes to the monitoring system trigger such recertification. The proposed monitoring provisions include a method for supplying missing data, in the event that a monitoring system fails to meet quality assurance and quality control requirements.

The proposed monitoring provisions also require sources to provide net electricity and useful steam output data and, as discussed above, provide procedures for quantifying the portion of $CO_2$ emissions associated with the combustion of eligible biomass. The proposed new rules require each $CO_2$ budget source to have a $CO_2$ emissions monitoring plan, as part of a $CO_2$ budget source's compliance plan. This monitoring plan would be incorporated into the operating permit for the $CO_2$ budget source. The $CO_2$ emissions monitoring plan defines the $CO_2$ emissions and net energy output monitoring procedures for a particular $CO_2$ budget source.

Offsets

The Department proposes compliance flexibility through the award of $CO_2$ offset allowances to projects that reduce and/or sequester emissions of greenhouse gases through emissions reduction or sequestration projects outside the capped electric generation sector. $CO_2$ offset allowances may be used to satisfy a limited fraction of a source's compliance obligation. Initially, the use of $CO_2$ offset allowances is limited to 3.3 percent of a unit's total compliance obligation during a control period, though this may be expanded to five and 10 percent, respectively, in the case of a stage-one or stage-two trigger event, as discussed above.

The following five project categories are eligible for $CO_2$ offset allowances under the proposed rules:

- Landfill methane capture and destruction;

- Reduction in emissions of sulfur hexafluoride ($SF_6$);
- Sequestration of carbon due to afforestation;
- Reduction or avoidance of $CO_2$ emissions from natural gas, oil, or propane end-use combustion due to end-use energy efficiency in the building sector; and
- Avoided methane emissions from agricultural manure management operations.

Upon the occurrence of a stage-two trigger event, the Department would also award $CO_2$ offset allowances for emissions credit retirements. Emissions credit retirements include the permanent retirement of greenhouse gas allowances or credits that have been issued pursuant to any mandatory carbon constraining program outside the United States, if the program places a specific tonnage limit on greenhouse gas emissions, or greenhouse gas emissions reduction credits certified pursuant to the United Nations Framework Convention on Climate Change (UNFCCC) or protocols adopted through the UNFCCC process. Offset allowances awarded for an emissions credit retirement could be used only for compliance in a control period in which a stage-two trigger is in effect.

The proposed new rules provide for determining the qualification status for all offset projects, as well as detailed provisions for determining the qualification status of offset projects by category. The proposed new rules also include detailed category-specific provisions specifying the determination of offset project emissions or sequestration baselines, the quantification of emissions reduction or net carbon sequestered, and monitoring and verification requirements. The intent of these provisions is to provide reasonable assurance that the $CO_2$ offset allowances awarded represent $CO_2$- equivalent emissions reductions or carbon sequestration that are real, additional, verifiable, enforceable, and permanent.

Eligible offset projects may be located in any participating state, or any other state or U.S. jurisdiction in which a cooperating regulatory agency has entered into a MOU with the participating states to provide oversight support related to $CO_2$ emissions offset projects in that state or U.S. jurisdiction. For offset projects located in New Jersey, offset project consistency applications would be submitted to the Department.

Eligible offset projects must go through a two-step application process and must be verified as part of both steps by an accredited independent verifier before the Department will award $CO_2$ offset allowances. The first step is a consistency determination, whereby the Department will determine whether a project meets eligibility criteria. The second step is the submittal of an annual monitoring and verification report, which requires the applicant to demonstrate the precise amount of greenhouse gas emissions reduced or sequestered.

A key component of the proposed offset provisions relates to project "additionality." Broadly, additionality attempts to address whether incremental greenhouse gas emissions reductions will be achieved from an offset project that would not otherwise have occurred in the absence of the offsets component. Additionality is the key criterion for ensuring that offset projects result in real emissions reductions in the context of a cap-and-trade program. Since offsets allow an additional ton of $CO_2$ to be emitted by a $CO_2$ budget source for each ton of $CO_2$ emission reduction achieved through an offset, offset projects must provide reasonable assurance

that they are achieving emissions reductions that would not otherwise have occurred in the absence of the offset provisions of the $CO_2$ Budget Trading Program. This presumes that offsets must involve actions that are unlikely to occur under a business-as-usual scenario (standard market practice).

Evaluating additionality is difficult, since it requires a counterfactual assessment based on assumptions about what would likely have occurred in the absence of the offset project. It may also involve an evaluation of individual project developer intent to determine if a project presents an attractive investment alternative absent offset allowance revenue and may, therefore, not be considered additional.

Despite the complexity of determining project additionality, the environmental integrity of emissions offsets, and by extension the environmental integrity of the $CO_2$ Budget Trading Program, require that best practical efforts be made to account for additionality.

There are two levels of additionality, "regulatory additionality" and "financial additionality." Regulatory additionality is the simplest version of additionality; only project-based reductions not required by law or regulation would be eligible. However, for many offset types this standard would allow a significant number of voluntary actions that are otherwise highly economically attractive or representative of standard market practice to receive offset allowances. Many of these actions would be considered business-as-usual by a wide range of stakeholders.

Financial additionality attempts to determine whether a project is likely to be economically attractive absent the revenue stream provided by an emissions offset. Financial additionality evaluation typically involves the application of a number of evaluation screens, such as identification of alternatives to the project, a barriers analysis (for example, a review of market barriers, technology barriers, or financial barriers), a common practice analysis, and an investment analysis (for example, a project-specific financial analysis, such as internal rate of return or net present value) with and without the projected revenue stream provided by offset credits. Based on this analysis, a determination is made as to whether the project, without offset credit revenue, is less financially attractive than other market options.

The proposed new rules employ a benchmark and performance standard approach for evaluating the additionality of a prospective offset project, referred to as a "standardized approach." Benchmarks and performance standards are proxies that may be used to infer financial additionality. A benchmark is a qualitative eligibility criterion for a category of projects that reasonably ensures that a project is unlikely to occur under standard market practice. A performance standard is a quantitative eligibility criterion that establishes a metric for determining if categories of projects are unlikely to occur under standard market practice. The criterion is established at a level significantly above the performance level achieved through standard market practice for the category of activities eligible for a certain type of offset. Projects that meet or surpass the standard qualify as additional. Examples of performance standards include emission rate, energy efficiency criteria, and market penetration rate. In the proposed new rules, benchmarks and performance standards are used independently or in tandem, depending on the market situation for specific categories of eligible offset project types.

**Chapter 27 Air Pollution Control**
**Subchapter 22 Operating Permits**

**N.J.A.C. 7:27-22.16 Operating permit contents**

The proposed new $CO_2$ budget trading program will require at proposed N.J.A.C. 7:27C-3.1(b) the incorporation of the program requirements and conditions into the operating permit for each $CO_2$ budget source. This is reflected in the proposed amendment to N.J.A.C. 7:27-22.16, adding new subsection (m).

**N.J.A.C. 7:27-22.28 $CO_2$ budget trading program**

Proposed N.J.A.C. 7:27-22.28(a) and (b) require the permittee to incorporate the requirements of the proposed new $CO_2$ budget trading program into the facility's operating permit, either as part of an initial operating permit (in the case of a $CO_2$ budget source that does not yet have an operating permit) or by way of a renewal or minor modification of an existing operating permit. Proposed N.J.A.C. 7:27-22.28(c) and (d) require a permittee to modify the facility's operating permit to reflect changes either in the $CO_2$ budget trading program requirements or in the permittee's equipment subject to those requirements.

Consistent with the treatment of permit shields in the Department's operating permit rules at N.J.A.C. 7:27-22.17(c), proposed N.J.A.C. 7:27-22.28(e) limits the application of the permit shield to those permits where the $CO_2$ budget trading program requirements were added by means of an initial operating permit or a renewal of an operating permit, to ensure that there has been an opportunity for public comment on those provisions in the permit.

Proposed N.J.A.C. 7:27-22.28(f) ensures that the $CO_2$ budget trading program requirements incorporated into an operating permit are consistent both with the permitting rules at N.J.A.C. 7:27-22 and the $CO_2$ budget trading program rules at N.J.A.C. 7:27C. Proposed N.J.A.C. 7:27-22.28(g) requires inclusion of a compliance plan as otherwise required at N.J.A.C. 7:27-22.16 and refers to N.J.A.C. 7:27-22.9, which includes the Department's rules regarding proposed compliance plans in operating permits generally. If the Department approves the inclusion of the $CO_2$ budget trading program requirements into the operating permit, then the Department will, under proposed N.J.A.C. 7:27-22.28(h) establish permit conditions in the operating permit that would allow the Department to verify compliance with the emissions requirements of N.J.A.C. 7:27C.

**Chapter 27A. Air Administrative Procedures and Penalties**
**Subchapter 3 Civil Administrative Penalties and Requests for Adjudicatory Hearings**

**7:27A-3.2 Definitions**

The proposed amendment to N.J.A.C. 7:27A-3.2 extends the reference to defined terms to include those in the proposed new N.J.A.C. 7:27C.

**7:27A-3.5 Civil administrative penalty determination—general**

The proposed amendments to N.J.A.C. 7:27A-3.5 extend the penalty provisions to include violations of proposed new N.J.A.C. 7:27C. They also add a provision referring to the calculation of penalties for certain violations of N.J.A.C. 7:27C at proposed new N.J.A.C. 7:27A-3.10(u).

**N.J.A.C. 7:27A-3.10 Civil administrative penalties for violation of rules adopted pursuant to the Act**

The Department proposes new N.J.A.C. 7:27A-3.10(u) to add penalties for violations of the proposed new N.J.A.C. 7:27C. The penalties for violations of the proposed new chapter are consistent with existing penalties for similar violations for other Department rules. The proposed penalty for a violation of N.J.A.C. 7:27C-5.4(d) is based on the statutory maximum included in N.J.S.A. 26:2C-49e. References to N.J.A.C. 7:27C are also being added to N.J.A.C. 7:27A-3.2 and 3.5.

Under the Grace Period Law, N.J.S.A. 13:1D-125 to133, a person responsible for a minor violation is afforded a period of time by the Department to correct the violation in order to avoid being subject to a penalty. The Grace Period Law was incorporated into N.J.A.C. 7:27A (see 36 N.J.R. 5293(a), December 6, 2004; 37 N.J.R. 1789(a), May 16, 2005), and allows for most non-emission related violations to be considered to be "minor," and all emission-related violations to be considered to be non-minor. Based upon the criteria set forth at N.J.S.A. 13:1D-129, the Department has determined which of the proposed penalties are minor, and thus subject to a grace period, and which are non-minor, and thus not subject to a grace period.

**Chapter 27C. $CO_2$ Budget Trading Program**
**Subchapter 1. $CO_2$ Budget Trading Program General Provisions**

**N.J.A.C. 7:27C-1.1 Purpose**

The proposed stated purpose of the rules is to establish the State's component of the multi-state $CO_2$ Budget Trading Program.

**N.J.A.C. 7:27C -1.2 Definitions**

The Department is proposing definitions of terms that are used in the proposed new rules. The Department took many of these definitions from the Model Rule developed by the RGGI Staff Working Group, as it was released on the RGGI website in the January 5, 2007 version. The proposal also includes definitions of terms that were discussed by the RGGI Staff Working Group after the release of the January 5, 2007 version. The Department proposes other definitions for greater clarity or for terms that are used in the proposed new rules but are not in the Model Rule, as explained below.

The proposed definitions that the Department took from the January 5, 2007 version of the RGGI Model Rule are as follows: "account number," "acid rain emissions limitation," "Administrator," "allocate" or "allocation," "allocation year," "attribute," "attribute credit," "automated data acquisition and handling system" or "DAHS," "billing meter," "boiler," "$CO_2$ allowance," "$CO_2$ allowance deduction" or "deduct $CO_2$ allowances," "$CO_2$ allowance price,"

"$CO_2$ allowances held" or "hold $CO_2$ allowances," "$CO_2$ Allowance Tracking System," "$CO_2$ Allowance Tracking System account," "$CO_2$ allowance transfer deadline," "$CO_2$ budget emissions limitation," "$CO_2$ budget source," "$CO_2$ Budget Trading Program," "$CO_2$ budget unit," "$CO_2$ equivalent," "$CO_2$ offset allowance," "combined cycle system," "combustion turbine," "commence commercial operation," "commence operation," "compliance account," "consumer benefit account," "continuous emissions monitoring system" or "CEMS," "control period," "eligible biomass," "excess emissions," "fossil fuel," "fossil fuel-fired," "general account," "global warming potential" or "GWP," "gross generation," "life-of-the-unit contractual arrangement," "market settling period," "maximum design heat input," "maximum potential hourly heat input," "monitoring system," "nameplate capacity," "operator," "owner," "participating state," "receive" or "receipt of," "recordation, record, or recorded," "serial number," "source," "stage one threshold price," "stage one trigger event," "stage two threshold price," "stage two trigger event," "state," "submit" or "serve," "ton" or "tonnage," "12-month period," "unit," "unit operating day" and "voluntary renewable energy purchase."

The proposed definition of "continuous emissions monitoring system" or "CEMS" incorporates by reference 40 CFR 75.11(b)(2), which provides specific provisions for monitoring $SO_2$ emissions, specifically, a description of CEMS for measuring and recording the moisture content of flue gases, including examples of CEMS that are acceptable for the purposes of the USEPA Continuous Emission Monitoring rules.

The Department took the following proposed definitions from the definition of abbreviations in the Model Rule developed by the RGGI Staff Working Group, as it was released on the RGGI website in the January 5, 2007 version: "hr," "lb" and "MWe." In addition, the Department proposes definitions for the following abbreviations used in the proposed new chapter: "$CO_2$," "ERAs," "MMBtu," "MWh" and "$O_2$."

The RGGI Staff Working Group continued to refine the provisions of the RGGI Model Rule after the release of the January 5, 2007 version. The Department proposes the following definitions of terms that incorporate RGGI Staff Working Group discussions: "Acid Rain Program," "alternate $CO_2$ authorized account representative," "award," "CAIR $NO_X$ Annual Trading Program," "CAIR $NO_X$ Ozone Season Trading Program," "CAIR $SO_2$ Trading Program" and "non-$CO_2$ budget unit."

Based on discussions among the RGGI Staff Working Group, a program requirement was added requiring a $CO_2$ authorized account representative to be the same natural person as the account representative for the unit under the Acid Rain Program and the CAIR Program. Accordingly, "Acid Rain Program," "CAIR $NO_X$ Annual Trading Program," "CAIR $NO_X$ Ozone Season Trading Program," and "CAIR $SO_2$ Trading Program" are defined at proposed N.J.A.C. 7:27C-1.2 because these terms are used in reference to the selection of the $CO_2$ authorized account representative.

Proposed "alternate $CO_2$ authorized account representative" is based on RGGI Staff Working Group discussions and is proposed at N.J.A.C. 7:27C-1.2 in order to clarify the restriction that a $CO_2$ authorized account representative be the same person who is acting as the

alternate designated representative under the CAIR and Acid Rain Programs, as applicable. Proposed "award" is based on RGGI Staff Working Group discussions and is defined to explain the term as a subset of allocation. Proposed "non-$CO_2$ budget unit" is based on RGGI Staff Working Group discussions and is defined as a shorthand way to refer to a unit that is not covered by the $CO_2$ Budget Trading Program but shares a common stack with a $CO_2$ budget unit, so that the monitoring of the $CO_2$ budget unit follows procedures established for such common stack situations.

Proposed "$CO_2$ authorized account representative" is based on RGGI Staff Working Group discussions and is defined to address the requirement that this person be the same as the designated representative for the $CO_2$ budget source or $CO_2$ budget unit under the CAIR or Acid Rain Programs.

Proposed "$CO_2$ budget emissions limitation" is based on RGGI Staff Working Group discussions and modifies the definition in the RGGI Model Rule to clarify that the $CO_2$ allowance tonnage equivalent is to be in $CO_2$ emissions for the control period in question.

The proposed rules relating to the auction of $CO_2$ allowances at N.J.A.C. 7:27C-5 were developed in cooperation with the other participating states, though no model rule for the auction rules was developed. The Department proposes the following terms, which are used in the proposed auction provisions: "ascending price, multiple-round auction," "beneficial interest," "bidder," "$CO_2$ allowance auction," "$CO_2$ allowance auction website," "current market price," "current market reserve price," "descending price, multiple-round auction," "discriminatory price, sealed-bid auction," "minimum reserve price," "notice of $CO_2$ allowance auction," "qualified party," "reserve price," "uniform-price, sealed-bid auction," "unsold allowance" and "voluntary renewable energy market account."

The Department proposes defining "AP-42," which is only used in the proposed new rules in the explanation of LHV in the formula at N.J.A.C. 7-27C-5.2(j), where it is referenced twice, to obviate the need to include the rather lengthy text relating to the incorporation by reference and availability of the document twice in the formula text. The proposed definition of "AP-42" includes information on how to obtain or view a copy of this compilation of emission factors provided by the USEPA. An emissions factor is a representative value that relates the quantity of a pollutant released to the atmosphere with an activity associated with the release of that pollutant. The USEPA compilation of these factors is organized by industry function, so the factors are intended to be relevant to the source activities.

Proposed "British thermal unit" or "Btu" is used in connection with monitoring and other measurement and calculations, and is used throughout N.J.A.C. 7:27.

Proposed "carbon pool" and "carbon stock" are used in connection with the proposed rules regarding the award of $CO_2$ allowances for afforestation offset projects.

Proposed "certified dispatch agreement facility" and "dispatch agreement facility" are used in connection with eligibility to receive a fixed-price sale offer of $CO_2$ allowances.

The proposed new rules contain provisions relating to a "cogeneration facility"; accordingly, the Department has defined this term as it is defined by the USEPA at 40 CFR 96.102.

Proposed "Consumer Price Index" or "CPI" is used in the calculation of stage-one and stage-two trigger events.

Proposed "control area" is used in proposed provisions related to the administration of the voluntary renewable energy market $CO_2$ allowance set-aside account.

Proposed "distillate of air" is used in the proposed definition of "air contaminant," which is used in the proposed definition of "source." These definitions are the same as the definitions in the Air Pollution Control rules at N.J.A.C. 7:27.

The proposed new rules provide for the delegation of authority to make electronic submissions on behalf of the authorized $CO_2$ account representative. The RGGI Model Rule refers to this person as an "electronic submission agent" within the rule text regarding this delegation of authority. The Department proposes to define this term in the proposed definition section for greater consistency with rulemaking style in this State.

The Department proposes definitions of "Department" and "EPA" to obviate the need to provide the full name of these entities in the proposed rules.

Proposed "state" is defined to limit it to political subdivisions of the United States of America for the purposes of this proposed chapter. This definition is the same as the definition in the Air Pollution Control rules at N.J.A.C. 7:27.

Proposed "facility code" and "ORIS code" are used in the identification of a $CO_2$ budget source for permitting purposes.

Proposed "NYISO" and "PJM" are terms used in connection with participation in the wholesale electricity markets.

Proposed "New Jersey $CO_2$ Budget Trading Program Base Budget" is based on the generic term developed in the RGGI Model Rule and made specific to the New Jersey $CO_2$ Budget Trading Program Base Budget.

Proposed "person" is defined consistent with the definition of this term throughout the Air Pollution Control rules at N.J.A.C. 7-27.

Proposed "voluntary renewable energy market account" is used in connection with the management of such $CO_2$ allowance set-aside account.

**N.J.A.C. 7:27C-1.3 Applicability**

Under proposed new N.J.A.C. 7:27C-1.3(a), these proposed new rules apply to any $CO_2$ budget unit or $CO_2$ budget source; that is, any unit, or source containing any such 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. Therefore, a unit that no longer serves a 25 MWe or greater generator will still be considered to be a $CO_2$ budget under the proposed new rules, so long as it served such a generator on or after January 1, 2005, and will be subject to these rules. The Department proposes to carve out an exception at N.J.A.C. 7:27C-1.3(b) for a unit with a permit condition restricting the unit's annual electrical output to the electric grid to 10 percent or less of its annual gross generation. This exemption is effective January 1 on or after the date when the electrical output restriction is final. Further conditions for this exemption are proposed at N.J.A.C. 7:27C-1.3(d) through (i) and address timing, reporting, record retention, and the circumstances under which the $CO_2$ budget unit will lose its exemption. Proposed N.J.A.C. 7:27C-1.3(j) provides for the retirement of $CO_2$ allowances in subsequent allocation years based on the exempt unit's average annual $CO_2$ emissions, based on recent, available data.

**N.J.A.C. 7:27C-1.4 General provisions**

Proposed N.J.A.C. 7:27C-1.4 contains the general provisions that apply to $CO_2$ budget sources and $CO_2$ budget units, the owners and operators of the $CO_2$ budget source or $CO_2$ budget unit and $CO_2$ allowances under the $CO_2$ budget trading program. If the $CO_2$ budget source or $CO_2$ budget unit is required to have an operating permit under N.J.A.C. 7:27-22, the operating permit must include, or be modified to include, $CO_2$ budget trading program requirements.

In order that the Department can determine whether the $CO_2$ budget source or $CO_2$ budget unit is complying with the $CO_2$ requirements of the chapter, the owner or operator and the $CO_2$ authorized account representative must comply with the monitoring requirements of N.J.A.C. 7:27C-8, discussed below.

Beginning on the later of January 1, 2009 or the date on which a $CO_2$ budget unit commences operation, there must be enough $CO_2$ allowances in the $CO_2$ budget source's compliance account by the $CO_2$ allowance transfer deadline for a control period to at least equal the source's $CO_2$ emissions for the control period. A $CO_2$ budget source can use a $CO_2$ offset allowance to meet this requirement, but only up to the applicable percent limitation of N.J.A.C. 7:27C-6. A $CO_2$ budget source cannot use a $CO_2$ allowance of an allocation year that falls within a future control period to meet the requirement for a current control period. For example, it cannot use a $CO_2$ allowance of the 2012 allocation year or subsequent allocation years to meet the requirement for a control period that ends in 2011.

The holding, transfer and deduction of $CO_2$ allowances are governed by N.J.A.C. 7:27C-5, 6 and 7, discussed below.

A $CO_2$ allowance is a limited authorization to emit one ton of $CO_2$; there is no property right to a $CO_2$ allowance, which can be terminated or limited by the issuing state entity.

If a source emits more $CO_2$ than it holds allowances for as of the $CO_2$ allowance transfer deadline for a control period, it is in violation of these rules, and each ton of $CO_2$ emitted in

excess of requirements of this chapter is a separate violation. $CO_2$ offset allowances cannot be used to cover any part of excess emissions and the $CO_2$ allowances required for deduction under Subchapter 6 will be forfeited.

The source must retain on site for 10 years those documents that are necessary to determine whether the source has complied with this chapter. If necessary, the Department can determine that an additional retention period is required to determine compliance. In order that the Department can determine whether the $CO_2$ budget source or $CO_2$ budget unit is complying with the $CO_2$ requirements of the chapter, the $CO_2$ authorized account representative must submit documentation as required under the chapter, including N.J.A.C. 7:27C-4, discussed below.

A revision to an operating permit that is effective after a violation will not cure the violation.

If a proposed rule states that it applies to a $CO_2$ budget source or the $CO_2$ authorized account representative of the $CO_2$ budget source, the rule also applies to the owners and operators of the source and to the $CO_2$ budget units at the source.

No provision of these rules will in any way create an exemption from the applicable State and Federal requirements.

**N.J.A.C. 7:27C-1.5 Computation of time**

Proposed N.J.A.C. 7:27C-1.5 establishes how time periods are calculated for the purposes of the proposed new chapter, including the determination of the beginning and end of a time period. The proposed rule provides for the extension of a time period so that it does not end on a weekend or State or Federal holiday.

**N.J.A.C. 7:27C-1.6 Appeal procedure**

Proposed N.J.A.C. 7:27C-1.6 establishes the appeal procedure for this chapter. The Department based these procedures on those already established for other programs in the Department, tailored as needed to match the specific elements of the $CO_2$ budget trading program.

A party has 20 calendar days to appeal a decision by the Department by sending a request for an administrative hearing to the Department using a form provided by the Department and containing information identifying the requester, the basis for the request for a hearing, the decision being appealed, the facts and related legal issues and all supporting information and documentation. The Department will deny any request not received by the 20-day deadline, and may deny a request that does not contain the required information.

The Department may attempt informal settlement, once it has received a complete request for a hearing. The case can also be mediated by the Department's Office of Dispute Resolution, if the Department finds the case suitable for mediation and the party requesting the adjudicatory hearing has requested mediation.

The Department will request an administrative hearing with the Office of Administrative Law (OAL) for a matter it determines to be a contested case. This does not include a matter that only raises issues of law. Appeals heard by the OAL are conducted in accordance with applicable State law and rules. The Department's denial of a request for hearing is the Department's final decision for the purposes of judicial appeal.

The administrative law judge submits his or her initial decision at the conclusion of the adjudicatory hearing to the Commissioner, who, in turn, issues a final decision, in accordance with the Administrative Procedure Act and the Uniform Administrative Procedure Rules. The Commissioner's final decision can be appealed to the Appellate Division of the Superior Court, within the time provided by court rule.

**N.J.A.C. 7:27C-1.7 Severability**

If a portion of the proposed chapter is ruled invalid or unenforceable, the Department intends that the remainder of the proposed rules will remain in effect, as set forth in proposed N.J.A.C. 7:27C-1.7.

## Subchapter 2. $CO_2$ Authorized Account Representative Account Representative of a $CO_2$ Budget Source

**N.J.A.C. 7:27C-2.1 Authorization and responsibilities of the $CO_2$ authorized account representative of a $CO_2$ budget source**

Proposed N.J.A.C. 7:27C-2.1 addresses the selection, authorization and responsibilities of the $CO_2$ authorized account representative and the relationship between the $CO_2$ authorized account representative and other parties.

The $CO_2$ authorized account representative is selected by the owners and operators of a $CO_2$ budget source (and all $CO_2$ budget units at the source) as reflected in the complete account certificate of representation, and is authorized to represent and legally bind those owners and operators. If the $CO_2$ budget source is subject to any of the CAIR programs, the $CO_2$ authorized account representative must be the same person who is the CAIR designated representative for the $CO_2$ budget source. There will be only one $CO_2$ authorized account representative for each $CO_2$ budget source (including all $CO_2$ budget units at the source).

Representation by the $CO_2$ authorized account representative begins once the Department receives a complete account certificate of representation. Only after that happens will the Department issue any $CO_2$ budget permit or establish any $CO_2$ Allowance Tracking System account.

Only the $CO_2$ authorized account representative is authorized to submit, sign and certify $CO_2$ Budget Trading Program submissions and must include in each submission a statement

certifying his or her authorization, familiarity with the content, and belief in the accuracy thereof. The Department will not accept or act on a submission that does not comply with the proposed requirements.

**N.J.A.C. 7:27C-2.2 Alternate $CO_2$ authorized account representative of the $CO_2$ budget source**

Proposed N.J.A.C. 7:27C-2.2 addresses the designation and authorization of the alternate $CO_2$ authorized account representative of the $CO_2$ budget source.

Only one alternate $CO_2$ authorized account representative may be designated to act on behalf of the $CO_2$ authorized account representative, as reflected in the account certificate of representation. The procedure for authorizing the alternate $CO_2$ authorized account representative to act in lieu of the $CO_2$ authorized account representative will be part of the agreement whereby the alternate $CO_2$ authorized account representative is selected. The acts of the alternate $CO_2$ authorized account representative are deemed to be those of the $CO_2$ authorized account representative, once the Department receives a complete account certificate of representation.

**N.J.A.C. 7:27C-2.3 Changing the $CO_2$ authorized account representative of the $CO_2$ budget source and the alternate $CO_2$ authorized account representative of the $CO_2$ budget source; changes in the owners and operators**

Proposed N.J.A.C. 7:27C-2.3 sets forth the procedures and timing for the change of a $CO_2$ authorized account representative or an alternate $CO_2$ authorized account representative by the owners and operators of a $CO_2$ budget source, as well as the steps to be taken when there has been a change in owners or operators.

The owners and operators of a $CO_2$ budget source or $CO_2$ budget unit can change the $CO_2$ authorized account representative or his or her alternate by submitting a new complete account certificate of representation that reflects the change or changes. The change is effective upon the Department's receipt of the superseding account certificate of representation. Actions of the previous $CO_2$ authorized account representative or alternate $CO_2$ authorized account representative taken before the Department receives the superseding account certificate of representation are binding on the new $CO_2$ authorized account representative, alternate $CO_2$ authorized account representative, and the owners and operators of the $CO_2$ budget source and the $CO_2$ budget units at the source.

A new owner or operator of a $CO_2$ budget source or a $CO_2$ budget unit (one not listed as an owner or operator in the account certificate of representation) will be treated as though he or she was listed in the account certificate of representation, that is, with the same obligations and responsibilities as a listed owner or operator.

When there is a change in the owners and operators of a $CO_2$ budget source or $CO_2$ budget unit, the $CO_2$ authorized account representative or his or her alternate must, within 30 days, submit to the Department a revised account certificate of representation that includes an amended list of owners and operators.

**N.J.A.C. 7:27C-2.4 Account certificate of representation**

Proposed N.J.A.C. 7:27C-2.4 requires the account certificate of representation for a $CO_2$ authorized account representative or alternate $CO_2$ authorized account representative to be in a format prescribed by the Department and establishes the elements to be included therein. The elements include information that will allow the Department to identify the $CO_2$ budget source and $CO_2$ budget unit, the $CO_2$ authorized account representative and alternate $CO_2$ authorized account representative, and the owners and operators of the $CO_2$ budget source. Also included are statements certifying the selection and competence of the $CO_2$ authorized account representative and the alternate $CO_2$ authorized account representative and their dated signatures. None of the documents of agreement referred to in the account certificate of representation are to be submitted to the Department unless otherwise required by the Department; if any are submitted, the Department is not obligated to review or evaluate the sufficiency of such documents.

**N.J.A.C. 7:27C-2.5 Objections concerning the $CO_2$ authorized account representative of the $CO_2$ budget source or the alternate $CO_2$ authorized account representative of the $CO_2$ budget source**

The Department will rely on a complete account certificate of representation from the time the Department receives it, unless and until the Department receives a superseding complete account certificate of representation. Communications to the Department, other than those relating to the change in the $CO_2$ authorized account representative, or alternate, pursuant to N.J.A.C. 7:27C-2.3(a), will not affect the authorization or acts of the $CO_2$ authorized account representative or his or her alternate, or the finality of any decision or order by the Department under the $CO_2$ Budget Trading Program. Nor will the Department adjudicate any private legal dispute concerning the authorization or various acts of a $CO_2$ authorized account representative or alternate.

**N.J.A.C. 7:27C-2.6 Delegation of authority to make electronic submissions by the $CO_2$ authorized account representative of the $CO_2$ budget source and the alternate $CO_2$ authorized account representative of the $CO_2$ budget source**

The $CO_2$ authorized account representative or his or her alternate can delegate to one or more persons the authority to make an electronic submission to the Department by submitting a notice of delegation.

This notice must be in a format prescribed by the Department, and include information to help the Department identify the parties to the delegation, including identification and contact information for the $CO_2$ authorized account representative or his or her alternate; and identification of the delegatee, otherwise referred to as the "electronic submission agent." The notice must also indicate the type of submissions for which authority is delegated and certification by the $CO_2$ authorized account representative or his or her alternate that delegated electronic submissions made will be deemed to be an electronic submission by the $CO_2$ authorized account representative or alternate and an agreement to maintain an e-mail account and to notify the Department immediately of any change in the e-mail address.

The notice of delegation is effective when the Department receives it, and remains in effect until the Department receives a superseding notice of delegation. The superseding notice of delegation may replace or add an electronic submission agent or eliminate entirely any delegation of authority. The delegated electronic submissions are deemed to be electronic submissions as though made by the delegating $CO_2$ authorized account representative or his or her alternate.

**Subchapter 3. Permits**

**N.J.A.C. 7:27C-3.1 General requirements for an operating permit incorporating $CO_2$ Budget Trading Program requirements**

Proposed N.J.A.C. 7:27C-3.1 requires each $CO_2$ budget source to be permitted under N.J.A.C. 7:27-22, since each such source will otherwise be required to have such an operating permit issued by the Department. The permit, whether a new permit, a permit renewal, or a permit modification, must contain the requirements of the proposed new $CO_2$ Budget Trading Program.

**N.J.A.C. 7:27C-3.2 Submission of an application for an operating permit incorporating $CO_2$ Budget Trading Program requirements**

The complete operating permit application must be submitted by January 1, 2009 (or one week after the operative date of this chapter) or 12 months before commencement of operation, whichever comes later.

**N.J.A.C. 7:27C-3.3 Information requirements for an application for an operating permit incorporating $CO_2$ Budget Trading Program requirements**

The complete operating permit application must include information to help the Department identify the $CO_2$ budget source, $CO_2$ budget units at the source, and must also include the applicable requirements of the $CO_2$ Budget Trading Program at Subchapters 1, 4, 6 and 8.

**Subchapter 4. Compliance Certification**

**N.J.A.C. 7:27C-4.1 Compliance certification report**

The compliance certification report provides official documentation that supports evidence of the $CO_2$ budget source's compliance with the emissions requirements of the $CO_2$ Budget Trading Program. Proposed N.J.A.C. 7:27C-4.1 establishes the timing and contents requirements for the compliance certification report.

The $CO_2$ authorized account representative must submit a compliance certification report to the Department, in Department-prescribed format, by March 1 following each control period. The compliance certification report must include information that will allow the Department to identify the $CO_2$ budget source and the $CO_2$ budget units at the source, the $CO_2$ allowances and $CO_2$ offset allowances to be deducted. It must also include a certification by the $CO_2$ authorized account representative regarding the compliant operation of the source and the $CO_2$ budget units at the source during the calendar years covered by the report, including information concerning the proper maintenance of the applicable monitoring plans; proper monitoring and reporting of all $CO_2$ emissions from the units at the source; any change in facts upon which the monitor certifications are based; and an explanation of change in the monitor certification facts.

**N.J.A.C. 7:27C-4.2 Department action on compliance certifications**

Proposed N.J.A.C. 7:27C-4.2 addresses the handling of submitted compliance certifications and other submissions under the proposed new chapter.

Compliance certifications and other submissions are subject to review by the Department, including the use of independent audits, and adjustment by the Department, as appropriate, of the information in those submissions. The Department will act on these submissions, make necessary adjustments to the information in these submissions and deduct or transfer $CO_2$ allowances based on the information in the submissions and the Department's adjustments.

**Subchapter 5. $CO_2$ Allowance Allocations**

**N.J.A.C. 7:27C-5.1 New Jersey $CO_2$ Budget Trading Program base budget**

As explained in the Summary above, proposed N.J.A.C. 7:27C-5.1 establishes the annual $CO_2$ emissions budget for New Jersey, reflecting declining emissions budgets for the 2015 through 2018 allocation years. Combined with the emissions budgets of other participating states, the New Jersey emissions budget represents the New Jersey portion of the regional emissions cap for the $CO_2$ Budget Trading Program, assigned through the RGG Memorandum of Understanding, and established through the proposed new rules.

**N.J.A.C. 7:27C-5.2 $CO_2$ allowance allocations**

Proposed N.J.A.C. 7:27C-5.2 allocates the New Jersey $CO_2$ emissions budget among a number of $CO_2$ allowance accounts, and provides the mechanics for distributing or retiring $CO_2$ allowances from such accounts, and the process for awarding certain $CO_2$ allowances to $CO_2$ budget sources.

As outlined in the Summary above, the Department proposes to allocate $CO_2$ allowances representing 99 percent of the New Jersey $CO_2$ emissions budget for each allocation year to a consumer benefit account. $CO_2$ allowances from the account will be auctioned, sold, or allocated to provide incentives for energy efficiency, renewable or non-carbon emitting technologies, and innovative carbon emissions abatement technologies, and to mitigate electricity ratepayer impacts attributable to the implementation of the $CO_2$ Budget Trading Program and fund the administration of the $CO_2$ Budget Trading Program and related consumer benefit programs. Moneys collected through the sale or auction of $CO_2$ allowances in the consumer benefit account will be deposited in the Global Warming Solutions Fund established by the Department of the Treasury pursuant to N.J.S.A. 26:2C-50 and will be administered in accordance with N.J.S.A. 26:2C-51 and the Department's rules adopted pursuant to N.J.S.A. 26:2C-52.

As discussed above, the Department proposes to allocate $CO_2$ allowances equivalent to one percent of the New Jersey $CO_2$ emissions budget to a set-aside account to support the functioning of the voluntary renewable energy market. The proposed section establishes the mechanics for the administration of a voluntary renewable energy market account by the Department, including the process for submitting a request to the Department for the retirement of $CO_2$ allowances from the account and the process by which the Department will determine the number of $CO_2$ allowances to retire.

A retail provider of renewable energy or renewable energy attributes must submit a request to the Department to retiree $CO_2$ allowances from the account by the July 30 following the allocation year for which a retirement is requested. A request must contain information that documents the renewable energy or renewable energy attribute purchases and that such purchases were made by New Jersey ratepayers and represent a valid voluntary renewable energy purchases as defined at proposed N.J.A.C. 7:27C-1.2. If retirement requests exceed the number of $CO_2$ allowances for an allocation year in the account, then the Department will process the requests in the order they are received by the Department, with a simultaneous request being considered a request received in the same month. If retirement requests received in the same month exceed the number of $CO_2$ allowances for an allocation year in the account, the Department will retire $CO_2$ allowances for such requests on a proportional basis.

The Department will retire $CO_2$ allowances by the November 30 following an allocation year, in an amount equivalent to the number of tons of avoided $CO_2$ emissions during an allocation year represented by actual voluntary renewable energy purchases documented in requests to the Department, up to the number of $CO_2$ allowances for the allocation year in the account. Any $CO_2$ allowances for an allocation year that were not retired by the Department and that remain in the voluntary renewable energy market account following November 30 will be transferred by the Department to the consumer benefit account.

As outlined in the Summary above, the Department proposes to allocate $CO_2$ allowances from the consumer benefit account directly to $CO_2$ budget units that are also cogeneration units and meet certain requirements. To receive an allocation, a $CO_2$ budget unit must be a cogeneration unit and meet certain thermal efficiency requirements. If a qualified cogeneration unit meets an annual thermal efficiency of between 42.5 and 45 percent, depending on the operating profile of the unit, it is qualified to receive an allocation of $CO_2$ allowances for the 2009 through 2011 allocation years. These $CO_2$ allowances represent the $CO_2$ emissions resulting from the production of useful thermal energy by the unit. If a qualified cogeneration unit meets an annual thermal efficiency of 60 percent, it is qualified to receive an allocation of $CO_2$ allowances for the 2009 allocation year and all subsequent allocation years, which $CO_2$ allowances represent the $CO_2$ emissions resulting from the production of useful thermal energy by the unit. If a qualified cogeneration unit meets an annual thermal efficiency of 70 percent, it is qualified to receive an allocation of $CO_2$ allowances in an amount equivalent to the $CO_2$ emissions from unit during the allocation year for which an allocation request is being submitted. The Department proposes calculations for determining a cogeneration unit's thermal efficiency and for the allocation of $CO_2$ allowances by the Department.

In order to receive the $CO_2$ allowances for which it is eligible, the $CO_2$ authorized account representative for a qualifying $CO_2$ budget unit must submit an application for $CO_2$ allowances by the March 30 following the end of the allocation year for which $CO_2$ allowances are being requested. An application must demonstrate that the $CO_2$ budget unit meets the requirements to be considered a cogeneration unit and the applicable thermal efficiency requirements, identify the compliance account for the $CO_2$ budget unit, identify the allocation year for which a request is being made, specify the number of $CO_2$ allowances requested, and provide the calculations and supporting data used to determine the same. A $CO_2$ budget unit for which the $CO_2$ authorized account representative for the $CO_2$ budget unit has accepted a fixed-price sale offer of $CO_2$ allowances from the Department for the $CO_2$ budget unit during the calendar year that corresponds to the allocation year for which a request is being made is not eligible for an allocation of $CO_2$ allowances.

As discussed in the Summary above, the Department proposes to award early reduction $CO_2$ allowances to a $CO_2$ budget source that reduces $CO_2$ emissions during the period 2006 through 2008, which is prior to the start of the first $CO_2$ Budget Trading Program control period. The Department proposes a formula for determining the number of $CO_2$ allowances for which the $CO_2$ budget source is eligible.

In order to receive an award of early reduction $CO_2$ allowances, a $CO_2$ budget source must submit an application to the Department by May 1, 2009. The application must document the $CO_2$ budget units that existed at the $CO_2$ budget source during the early reduction period, and demonstrate that data submitted with the application was recorded in accordance with the monitoring and reporting requirements of proposed N.J.A.C. 7:27C-8. If data were not recorded

in accordance with proposed N.J.A.C. 7:27C-8 during the early reduction period, the $CO_2$ budget source may petition the Department for the use of an alternative data source. After confirming a $CO_2$ budget source's early reductions of $CO_2$ emissions, the Department will award $CO_2$ allowances to the compliance account of the $CO_2$ budget source by December 31, 2009.

**N.J.A.C. 7:27C-5.3 Timing requirements for distribution of $CO_2$ allowances in the consumer benefit account**

Proposed N.J.A.C. 7:27C-5.3 provides the timing for the sale or auction of $CO_2$ allowances from the consumer benefit account. No later than December 31 of the corresponding calendar year, the Department will make all $CO_2$ allowances for an allocation year held in the account available for auction or sale, except those $CO_2$ allowances allocated directly to a $CO_2$ budget source that is also a cogeneration unit or $CO_2$ allowances transferred into the consumer benefit account from the voluntary renewable energy account.

**N.J.A.C. 7:27C-5.4 Distribution of $CO_2$ allowances in the consumer benefit account**

Proposed N.J.A.C. 7:27C-5.4 provides for the auction and sale of $CO_2$ allowances in the consumer benefit account. All $CO_2$ allowances in the account, less those $CO_2$ allowances allocated directly to a $CO_2$ budget source that is a cogeneration unit or sold to a $CO_2$ budget source that is a dispatch agreement facility, will be auctioned in accordance with proposed N.J.A.C. 7:27C-5.5.

As discussed in the Summary above, the Department will offer to sell some of the $CO_2$ allowances at a fixed price of $2.00 per $CO_2$ allowance to the $CO_2$ authorized account representative for a $CO_2$ budget unit that is a dispatch agreement facility. The proposed rules set forth the process for such a sale.

For a $CO_2$ budget source to be eligible to receive a fixed-price sale offer of $CO_2$ allowances from the Department, the owner or operator of the source must certify to the Department through a sworn affidavit that the source meets the criteria of a dispatch agreement facility. The owner and operator must provide the Department with on-site access to any information required by the Department to determine the validity of the information supplied with the affidavit. The owner or operator must submit a supplemental affidavit if there is any material change to information contained in the original affidavit.

Once an affidavit is received by the Department, the $CO_2$ budget source will be deemed a certified dispatch agreement facility and eligible to receive a fixed-price sale offer of $CO_2$ allowances from the Department. The $CO_2$ budget source will lose that status if the source's power purchase agreement is terminated, such that the $CO_2$ budget source no longer meets the definition of a dispatch agreement facility. Any signatory to an affidavit that knowingly provides false of misleading information as part of an affidavit is subject to the penalties and

financial assessments outlined at N.J.S.A. 26:2C-49e; moreover, the $CO_2$ budget unit will no longer be considered a certified dispatch agreement facility.

The Department will annually apportion $CO_2$ allowances available for a fixed-price sale offer to a $CO_2$ budget unit that is a certified dispatch agreement facility based on the $CO_2$ emissions for the $CO_2$ budget unit, as determined by the Department, during the most recent three-year period for which $CO_2$ emissions data is available. The Department will offer apportioned $CO_2$ allowances to a $CO_2$ budget unit for a fixed price of $2.00 per $CO_2$ allowance, and will publish the procedures for such a sale offer at least 45 days prior to making the offer.

The $CO_2$ authorized account representative for a $CO_2$ budget unit that is a certified dispatch agreement facility must notify the Department by the deadline specified in the published procedures whether he or she accepts the Department's sale offer and must specify the number of $CO_2$ allowances the representative intends to purchase on behalf of each applicable $CO_2$ budget unit. The Department will allocate $CO_2$ allowances to the compliance account of the applicable $CO_2$ budget unit in an amount equivalent to those $CO_2$ allowances purchased by the $CO_2$ authorized account representative on behalf of the $CO_2$ budget unit.

Any $CO_2$ allowances purchased from the Department on behalf of a $CO_2$ budget unit that is a certified dispatch agreement facility that remain in the compliance account of the $CO_2$ budget unit subsequent to the deduction of $CO_2$ allowances by the Department following the end of a control period will be transferred by the Department to the consumer benefit account.

**N.J.A.C. 7:27C-5.5 Auction of $CO_2$ allowances**

Proposed N.J.A.C. 7:27C-5.5 outlines the general process for auctioning $CO_2$ allowances in accordance with proposed N.J.A.C. 7:27C-5.5 through 5.18. The proposed rule allows implementation and administrative support functions for conducting any $CO_2$ allowance auction to be delegated by the Department to a qualified agent, provided that all such functions are subject to the direction and oversight of the Department. The Department will deposit the proceeds from the auction of $CO_2$ allowances in the Global Warming Solutions Fund established pursuant to N.J.S.A. 26:2C-50.

**N.J.A.C. 7:27C-5.6 Auction format**

Proposed N.J.A.C. 7:27C-5.6 outlines the auction formats, defined at proposed N.J.A.C. 7:27C-1.2, that the Department may employ when auctioning $CO_2$ allowances. $CO_2$ allowances will be sold in lots of 1,000 $CO_2$ allowances, unless the volume of $CO_2$ allowances auctioned requires an individual lot size smaller than 1,000, as in an instance when the exact number of $CO_2$ allowances auctioned does not end in an increment of 1,000.

**N.J.A.C. 7:27C-5.7 Auction timing and $CO_2$ allowance submission schedule**

In accordance with N.J.A.C. 7:27C-5.7, the Department proposes to hold $CO_2$ allowance auctions no less frequently than annually. The Department will make all $CO_2$ allowances in the consumer benefit account that are of allocation years that fall within a respective control period available for sale by the end of that control period, less any $CO_2$ allowances allocated to a $CO_2$ budget source that is a cogeneration unit or sold to a $CO_2$ budget unit that is a certified dispatch agreement facility.

In each auction, the Department will make available for sale $CO_2$ allowances that fall within a current control period and a future control period. The number of $CO_2$ allowances made available for sale in a specific auction will be disclosed in an auction notice published by the Department under proposed N.J.A.C. 7:27C-5.9.

**N.J.A.C. 7:27C-5.8 Reserve price and disposition of unsold allowances**

The Department proposes to establish a minimum price below which no $CO_2$ allowances will be sold, referred to as a reserve price, in order to ensure the proper functioning of $CO_2$ allowance auctions and mitigate the potential for collusive behavior by auction participants. The use of a reserve price is common in auctions, including auctions held by the Federal government. The reserve price established by the Department will be the higher of a "minimum reserve price," which is $1.86 per $CO_2$ allowance in 2008 and 2009 and as adjusted by the Consumer Price Index thereafter, and a "current market reserve price," which is 80 percent of the current market price of a $CO_2$ allowance as determined by the Department in consultation with other participating states. The Department may determine that there is not enough market data available to calculate a valid current market price for $CO_2$ allowances and, therefore, that the use of the current market reserve price is not justified. The minimum reserve price was determined based on the projected $CO_2$ allowance price for 2009 from electricity sector simulation modeling conducted by the Department and the other participating states (see Economic Impact). The Department will disclose the reserve price to be used in a $CO_2$ allowance auction prior to each auction.

If any $CO_2$ allowances for an allocation year offered at an auction remain unsold, the Department proposes to offer such allowances for sale at the subsequent auction of $CO_2$ allowances for that allocation year, provided a current market reserve price is in effect for such auction. If $CO_2$ allowances for an allocation year remain unsold at the end of a control period, the Department will offer such $CO_2$ allowances for sale in a subsequent auction or auctions in the next control period or retire the unsold $CO_2$ allowances.

**N.J.A.C. 7:27C-5.9 Auction notice**

Proposed N.J.A.C. 7:27C-5.9 provides for the notice of $CO_2$ allowance auction logistics, procedures, and certain requirements prior to each auction. The Department will publish a notice of $CO_2$ allowance auction on an auction website no later than 45 days before the date of a

scheduled auction. The notice will include information about the time and location of the auction (such as the Internet address for an online auction) as well as other information, procedures and requirements, such as auction format, number of $CO_2$ allowances to be offered, auction procedures, participation requirements, type of financial security required to be submitted by participants, participation limits applicable to participants or groups of participants, instructions for applying to participate, and identification of a contact for further information. The auction procedures and requirements specified in the auction notice will be consistent with the provisions at proposed N.J.A.C. 7:27C-5.

**N.J.A.C. 7:27C-5.10 Auction participant requirements**

Proposed N.J.A.C. 7:27C-5.10 outlines the requirements for participating in a $CO_2$ allowance auction. To qualify to participate in a $CO_2$ allowance auction, a party must be listed as a member of an eligible category of participants in the auction notice, open and maintain a compliance or general account under proposed N.J.A.C. 7:27C-2.4 or 6.3, submit a qualification application under proposed N.J.A.C. 7:27C-5.12 and become qualified by the Department to participate in auctions, and submit appropriate financial security to the Department. Only those parties that meet the above requirements will be classified as bidders, and allowed to participate in a specified $CO_2$ allowance auction.

**N.J.A.C. 7:27C-5.11 Auction participant eligibility**

In accordance with proposed N.J.A.C. 7:27C-5.11, prior to an auction the Department will announce the categories of parties that are eligible to participate in the auction. An owner or operator of a $CO_2$ budget unit located in New Jersey is always a category that is eligible to participate in a $CO_2$ allowance auction, whatever other categories may be included. The other proposed categories that are among those that may be eligible for a particular auction are an owner or operator of a $CO_2$ budget unit located in a participating state, and any other market participants as may be specified in the auction notice.

The Department will announce the eligible categories of participants for a specific $CO_2$ allowance auction in the notice for that auction.

**N.J.A.C. 7:27C-5.12 Auction participant qualification**

Proposed N.J.A.C. 7:27C-5.12 outlines the process and requirements for becoming qualified to participate in $CO_2$ allowance auctions.

Any party that intends to participate in a $CO_2$ allowance auction must submit a qualification application to the Department, by the deadline in the notice of the auction. The Department will provide qualification application materials on an auction website. As part of a qualification application, an applicant must submit information and documentation that will allow the Department to evaluate the applicant's ability and authority to execute bids and honor contractual obligations. In addition, the applicant must also submit information necessary to

ensure adherence to auction requirements and procedures. A qualification application must include identification of a compliance or general account, information regarding the corporate structure of the applicant, identification of any indictment or felony convictions of any directors or officers of the applicant or any affiliate or related entity, identification of any previous or pending investigation of the applicant or any affiliate or related entity with respect to any commodity market or exchange, disclosure of any beneficial interest in $CO_2$ allowances that may be acquired by the applicant or other auction participants, and any other information that the Department may require to ensure the integrity of $CO_2$ allowance auctions.

The proposed rule sets for the process for Department review and approval or denial of a qualification application, and the basis under which the Department may revoke the qualification status of a party. Once a party has been deemed qualified to participate in an auction, the party remains qualified to participate in subsequent $CO_2$ allowance auctions, provided that there has been no material change to information submitted as part of the qualification application. If there has been a material change in the information, the party must disclose it to the Department. The party will remain qualified if the Department determines that such change does not warrant a change to the party's qualification status. If the Department determines that a material change warrants a change to the qualification status of the party, the Department will revoke the qualification status of the party. In such instance, the party must again submit a qualification application to become qualified to participate in $CO_2$ allowance auctions.

Prior to each auction, a party that intends to participate in the upcoming auction must notify the Department through a notice of intent to participate form, which shall be provided by the Department on an auction website, that the party intends to participate in the upcoming auction. This form must be submitted to the Department by the deadline for submission of qualification applications specified in the auction notice for the auction. As part of a notice of intent to participate form submitted to the Department prior to an auction, a qualified party must disclose any material change to information submitted as part of a qualification application.

**N.J.A.C. 7:27C-5.13 Submission of financial security**

Proposed N.J.A.C. 7:27C-5.13 requires a qualified party to provide financial security to the Department in order to participate in a specific auction. Forms of acceptable financial security include a bond, cash, certified funds, or an irrevocable stand-by letter of credit. Upon receipt and approval of financial security, the Department will approve the party to participate as a bidder in the specified $CO_2$ allowance auction.

A party may request the return of its financial security at any time, provided the Department does not have a current or pending claim to the security as a result of a failure by the bidder to abide by the requirements of proposed N.J.A.C. 7:27C-5.5 through 5.15 or to pay the full amount of any submitted bid when due. Any request for the return of financial security prior to the conduct

of a $CO_2$ allowance auction will result in the Department revoking approval of the party to participate as a bidder in the specified $CO_2$ allowance auction.

**N.J.A.C. 7:27C-5.14 Bidder limitations**

The Department proposes at N.J.A.C. 7:27C-5.14 that a bidder may submit a bid or bids only in an amount up to the amount of financial security provided by the bidder. No bidder or combination of bidders with related beneficial interests may purchase more than 25 percent of the $CO_2$ allowances made available for sale at any one $CO_2$ allowance auction. These provisions are designed to ensure the proper functioning and integrity of $CO_2$ allowance auctions and to ensure the availability of $CO_2$ allowances for $CO_2$ budget sources by limiting the maximum amount of $CO_2$ allowances that any one party or related parties may purchase. The 25 percent purchase limit is significantly larger than the Department projects, based on recent reported$CO_2$ emissions, that any one company will need.

**N.J.A.C. 7:27C-5.15 Bid submittal requirements**

Proposed N.J.A.C. 7:27C-5.15 requires that bids to purchase $CO_2$ allowances be submitted in a form and manner prescribed by the Department, which the Department will make available on the $CO_2$ allowance auction website as appropriate. A submitted bid is considered a binding offer to purchase $CO_2$ allowances.

**N.J.A.C. 7:27C-5.16 Approval of auction results**

Proposed N.J.A.C. 7:27C-5.16 states that the Department will approve or disapprove the results of a $CO_2$ allowance auction following the completion of the auction. The Department will approve or disapprove the results of a $CO_2$ allowance auction based on an evaluation, in consultation with a market monitor, of whether the auction was conducted in accordance with the proposed procedures and requirements at N.J.A.C 7:27C-5.5 through 5.15 and whether there was any indication of collusive behavior among auction participants or attempts at market manipulation that impacted the results of the auction.

**N.J.A.C. 7:27C-5.17 Award of $CO_2$ allowances to winning bidders**

Proposed N.J.A.C. 7:27C-5.17 provides for the award of $CO_2$ allowances by the Department to winning bidders, following the approval of the auction results by the Department and the settlement of financial transactions, and the process for allocating $CO_2$ allowances to the compliance account or general account of a winning bidder.

**N.J.A.C. 7:27C-5.18 Publication of auction results**

Proposed N.J.A.C. 7:27C-5.18 provides for the publication of auction results by the Department within 10 days of the allocation of $CO_2$ allowances to the allowance accounts of winning bidders. For each auction, the Department will publish the auction clearing price and the number of $CO_2$ allowances sold at the auction.

## Subchapter 6. $CO_2$ Allowance Tracking System

### N.J.A.C. 7:27C-6.1 $CO_2$ Allowance Tracking System accounts

A $CO_2$ Allowance Tracking System account can be a compliance account or a general account. In accordance with proposed N.J.A.C. 7:27C-6.1, the Department will establish a compliance account in the $CO_2$ Allowance Tracking System for each $CO_2$ budget source that submits a complete account certificate of representation. The Department will establish a general account for each person who requests one. The general account can be used to hold $CO_2$ allowances. The Department will record allocations, deductions or transfers of $CO_2$ allowances in the compliance accounts and general accounts, as applicable, in accordance with the proposed new subchapter.

### N.J.A.C. 7:27C-6.2 Establishment of a $CO_2$ Allowance Tracking System account

Under proposed N.J.A.C. 7:27C-6.2, when it establishes a compliance account for a $CO_2$ budget source, or a general account for a person, the Department will assign a unique identifying number to the account. Once the $CO_2$ Allowance Tracking System account (either compliance account or general account) is established, only the $CO_2$ authorized account representative for the account (or his or her alternate, and, as appropriate, his or her delegate for electronic submissions) will be allowed to make submissions to the Department concerning the account. This includes submissions relating to the deduction or transfer of $CO_2$ allowances in the account.

### N.J.A.C. 7:27C-6.3 Procedures for opening a general account

Proposed N.J.A.C. 7:27C-6.3 describes the process for opening a general account. Any person may apply to open a general account to hold and transfer $CO_2$ allowances. The application designates a $CO_2$ authorized account representative and an alternate $CO_2$ authorized account representative. The procedure for authorizing the alternate $CO_2$ authorized account representative to act in lieu of the $CO_2$ authorized account representative must be included in the agreement that controls the selection of the $CO_2$ authorized account representative. The application must be dated and signed by the $CO_2$ authorized account representative and the alternate $CO_2$ authorized account representative and must include contact information for the representatives. Although the application does not need to indentify the organization for which the representatives act, it must identify the people subject to the binding agreement appointing the representative or alternate representative, to represent their ownership interest in $CO_2$ allowances held in the account, and the certification of the representative.

If the Department requires, the application must any documents of agreement referred to in the application; however, the Department is not obligated to review or evaluate the sufficiency of any such document of agreement.

**7:27C-6.4 Authorization of the $CO_2$ authorized account representative for a general account**

The $CO_2$ authorized account representative for the general account, and his or her alternate, represent and act on behalf of all of those who own the $CO_2$ allowances in the general account. The owners of the $CO_2$ allowances in the general account are bound by orders or decisions regarding the general account that are issued to the $CO_2$ authorized account representative or alternate $CO_2$ authorized account representative. This agreement to be so bound overrides any outside agreements to the contrary that the parties may have.

Only the $CO_2$ authorized account representative (or his or her alternate) is authorized to make submissions concerning the general account and must sign and include in each submission a statement certifying his or her authorization, familiarity with the content and belief in the accuracy thereof. The Department will not accept or act on a submission that does not comply with the proposed requirements for the submission.

**N.J.A.C. 7:27C-6.5 Changing the $CO_2$ authorized account representative for a general account and the alternate $CO_2$ authorized account representative for a general account; changes in ownership interest with respect to $CO_2$ allowances in a general account**

Proposed N.J.A.C. 7:27C-6.5 sets forth the procedures and timing for the change of a $CO_2$ authorized account representative for a general account, or his or her alternate, as well as the steps to be taken when there has been a change in those with an ownership interest in the $CO_2$ allowances in the general account.

The change in the $CO_2$ authorized account representative or his or her alternate is effected by submitting a superseding complete application for a general account that reflects the change or changes. The change is effective upon the Department's receipt of the superseding complete application. Actions of the previous $CO_2$ authorized account representative or alternate $CO_2$ authorized account representative taken before the Department receives the superseding complete application are binding on the new $CO_2$ authorized account representative, alternate $CO_2$ authorized account representative, and those with an ownership interest in the $CO_2$ allowances in the general account.

When someone with an ownership interest in the $CO_2$ allowances in the general account is not identified in the application for the general account, that person will be treated as though he or she were listed; that is, with the same obligations and responsibilities as a listed owner.

When there is a change in the parties with an ownership in the $CO_2$ allowances in the general account, the $CO_2$ authorized account representative or his or her alternate must, within 30 days of such change, update and submit the list of persons having an ownership interest in the $CO_2$ allowances in the general account to reflect the change in ownership.

**N.J.A.C. 7:27C-6.6 Objections concerning the $CO_2$ authorized account representative for a general account**

The Department will rely on a complete application for a general account from the time received, unless and until the Department receives a superseding complete application for a general account. No objection or other communication to the Department, other than those relating to the change in the $CO_2$ authorized account representative for the general account, or his or her alternate, pursuant to N.J.A.C. 7:27C-6.5(a), will affect the authorization or acts of the $CO_2$ authorized account representative or his or her alternate, or the finality of any decision or order by the Department under the $CO_2$ Budget Trading Program. Nor will the Department be involved in private legal disputes concerning the authorization or other activities of the $CO_2$ authorized account representative or his or her alternate. This would also include private legal disputes concerning the proceeds of $CO_2$ allowance transfers.

**N.J.A.C. 7:27C-6.7 Delegation of authority to make electronic submissions by the $CO_2$ authorized account representative for a general account and the alternate $CO_2$ authorized account representative for a general account**

Proposed N.J.A.C. 7:27C-6.7 allows a $CO_2$ authorized account representative for a general account, or his or her alternate, to delegate the authority to make an electronic submission to the Department.

The $CO_2$ authorized account representative or alternate $CO_2$ authorized account representative can make this delegation of authority by submitting a notice of delegation to the Department. This notice must be in a format prescribed by the Department and include information to help the Department identify the parties to the delegation, including identification and contact information for the $CO_2$ authorized account representative or his or her alternate and identification of the delegatee, otherwise referred to as the "electronic submission agent." The notice must also include the type of submissions for which authority is delegated and certification by the $CO_2$ authorized account representative or his or her alternate that a delegated electronic submission made will be deemed to be an electronic submission by the $CO_2$ authorized account representative or alternate and an agreement to maintain an e-mail account and to notify the Department immediately of any change in the e-mail address. The notice of delegation is effective when the Department receives it, and remains in effect until the Department receives a superseding notice of delegation. The superseding notice of delegation may replace or add an electronic submission agent or eliminate entirely any delegation of authority. The delegated electronic submissions are deemed to be electronic submissions as though made by the delegating $CO_2$ authorized account representative or his or her alternate.

**N.J.A.C. 7:27C-6.8 Recordation of $CO_2$ allowance allocations and $CO_2$ allowance awards**

Proposed N.J.A.C. 7:27C-6.8 addresses the identification of by serial number and the timing of the recordation of $CO_2$ allowances, including those allocated to the consumer benefit account, the voluntary renewable energy account, or the compliance account of a cogeneration

facility or a dispatch agreement facility and those awarded to a winning bidder in a $CO_2$ allowance auction or an offset project sponsor. It also addresses the recording of early reduction allowances (ERAs) awarded to a $CO_2$ budget source.

The Department will record $CO_2$ allowances allocated to the consumer benefit account and to the voluntary renewable energy account for 2009 through 2018 allocation years no later than January 30, 2009. The Department will record ERAs no later than December 31, 2009. The Department will record $CO_2$ allowances allocated to a cogeneration facility or dispatch agreement facility or awarded to a winning auction bidder or offset project sponsor within five business days of the allocation or award.

For $CO_2$ allowances allocated to the consumer benefit account or awarded to an offset project sponsor, and for ERAs awarded to a $CO_2$ budget source, the Department will assign and record the allowances with a unique identification number that includes identification of the year for which the allowances are allocated. For a $CO_2$ offset allowance, the identification number will also identify the allowance as a $CO_2$ offset allowance.

**N.J.A.C. 7:27C-6.9 Compliance**

Proposed N.J.A.C. 7:27C-6.9(a)1 through 4 provide the circumstances under which $CO_2$ allowances may be deducted for compliance with the $CO_2$ requirements for a given control period. These address the allocation year of the $CO_2$ allowances; the timing of the transfer or holding of the $CO_2$ allowances; the maximum percentage of the $CO_2$ budget source's $CO_2$ emissions for the control period that can be met by using $CO_2$ offset allowances; and the limitation that the $CO_2$ allowances are not necessary for deductions for excess emissions for a prior control period.

Proposed N.J.A.C. 7:27C-6.9(b) provides that the Department will deduct available $CO_2$ allowances to cover a source's $CO_2$ emissions for a given control period until a $CO_2$ allowance has been deducted for each ton of total $CO_2$ emissions, (after accounting for $CO_2$ emissions attributable to the burning of eligible biomass) or, if there are not enough available $CO_2$ allowances for that purpose, until there are no more available $CO_2$ allowances in the compliance account.

Proposed N.J.A.C. 7:27C-6.9(c) authorizes a $CO_2$ authorized account representative to request the deduction of specific $CO_2$ allowances in the compliance account, as identified by serial number in the compliance certification report submitted in accordance with N.J.A.C. 7:27C-4.1. This provides the $CO_2$ authorized account representative flexibility in managing the $CO_2$ allowances in the compliance account, by allocation year and allowance type.

Proposed N.J.A.C. 7:27C-6.9(d) provides the order in which the Department will deduct $CO_2$ allowances for a control period from a compliance account, when there is no, or only

partial, identification by serial number of available $CO_2$ allowances, based on allocation, order of recordation and whether or not they are $CO_2$ offset allowances.

Proposed N.J.A.C. 7:27C-6.9(e) provides for the deduction of $CO_2$ allowances if there are not enough allowances, as described in proposed N.J.A.C. 7:27C-6.5(b). In such case, after depleting the available $CO_2$ allowances, the Department will deduct $CO_2$ allowances from allocation years after the control period in question, but at a rate three times the number of excess emissions. If there are not enough $CO_2$ allowances for this purpose, the source must immediately transfer sufficient allowances into its compliance account, and that $CO_2$ offset allowances cannot be deducted to account for the source's excess emissions.

Proposed N.J.A.C. 7:27C-6.9(f) provides that the deduction of $CO_2$ allowances under proposed N.J.A.C. 7:27C-6.9(e), where there were not sufficient available allowances under proposed N.J.A.C. 7:27C-6.9(b), does not affect the liability or other obligations of the owners and operators of the $CO_2$ budget source or the $CO_2$ units at the source for the same violation.

Proposed N.J.A.C. 7:27C-6.9(g) permits challenges to the deduction of $CO_2$ allowances from a $CO_2$ budget source's account because of excess emissions, either as part of the initial administrative enforcement or any civil or criminal judicial action relating to the excess emissions violation. These challenges will not prevent the Department from deducting the $CO_2$ allowances in question, unless and until they result, by settlement or final judicial action, in a revision of the Department's underlying determination regarding excess emissions of the $CO_2$ budget source. Proposed N.J.A.C. 7:27C-6.5(g)1 and 2 describe the action the Department will take if settlement or final judicial action revise the Department's determination of excess emissions as too low or too high, respectively.

Proposed N.J.A.C. 7:27C-6.9(h) provides for the recordation of deductions pursuant to proposed N.J.A.C. 7:27C-6.9(b) and (e).

Proposed N.J.A.C. 7:27C-6.9(i) provides that submissions in this program are subject to the review of the Department, including independent audits, based on which the Department may adjust information in those submissions.

Proposed N.J.A.C. 7:27C-6.9(j) provides that, based on its adjustments to information in submissions the Department may adjust the $CO_2$ allowances in a source's compliance account by deducting or transferring allowances, as necessary.

**N.J.A.C. 7:27C-6.10 Banking**

Each $CO_2$ allowance held in a compliance account or in a general account will remain in the account until the $CO_2$ allowance is transferred from the account by the $CO_2$ authorized account representative or deducted from a compliance account by the Department. This allows

for the "banking" of $CO_2$ allowances for future use.

**N.J.A.C. 7:27C-6.11 Account error**

The Department may correct errors in $CO_2$ Allowance Tracking System accounts and will notify the $CO_2$ authorized account representative for the account of the correction within 10 business days of such correction.

**N.J.A.C. 7:27C-6.12 Closing of general accounts**

Proposed N.J.A.C. 7:27C-6.12 establishes the procedures for closing a general account, either by the $CO_2$ authorized account representative or by the Department, in the case of an inactive, empty general account.

To close a general account, the $CO_2$ authorized account representative must request the Department to delete the account from the $CO_2$ Allowance Tracking System and otherwise close out the account by following the procedures to record the transfer of all $CO_2$ allowances in the account to one or more other $CO_2$ Allowance Tracking System accounts.

The Department can close an inactive general account (one with no activity for at least six years) with no $CO_2$ allowances in it by giving 20 days notice to the $CO_2$ authorized account representative for the general account. The account can be kept open upon a showing of good cause as to why it should not be closed, or a timely transfer of $CO_2$ allowances into the account.

**Subchapter 7. $CO_2$ Allowance Transfers**

**N.J.A.C. 7:27C-7.1 Submission of $CO_2$ allowance transfers**

Proposed N.J.A.C. 7:27C-7.1(a) establishes the procedures to be followed by a $CO_2$ authorized account representative to have $CO_2$ allowance transfers recorded by the Department. The transfer is submitted to the Department, in a format provided by the Department, and includes information that will allow the Department to identify the transferor and transferee accounts, the $CO_2$ allowances to be transferred, the $CO_2$ authorized account representative of the transferor account and provide information concerning the last sale or purchase transaction for the allowances involved in the current transfer, including the sale or purchase price of $CO_2$ allowances.

**N.J.A.C. 7:27C-7.2 Recordation**

Proposed N.J.A.C. 7:27C-7.2 establishes the timing for recordation and transfer of $CO_2$ allowances by the Department.

The Department will only record a $CO_2$ allowance transfer that complies with the submission requirements of proposed N.J.A.C. 7:27C-7.1 and where the $CO_2$ allowances that are to be transferred are already in the transferor account. In addition, where a $CO_2$ allowance transfer is submitted for recordation following the $CO_2$ allowance transfer deadline, the Department will not record the transfer of any allowances until the Department has deducted $CO_2$ allowances for

the control period for which the transfer deadline has passed.

**N.J.A.C. 7:27C-7.3 Notification**

Proposed N.J.A.C. 7:27C-7.3 sets forth the timing and manner of notification by the Department of its decision to record or not record a $CO_2$ allowance transfer.

**Subchapter 8. Monitoring, Recordkeeping and Reporting**

**N.J.A.C. 7:27C-8.1 General requirements**

Proposed Subchapter 8 includes the monitoring, recordkeeping, and reporting requirements for $CO_2$ budget unit owners and operators and $CO_2$ authorized account representatives. In addition to those requirements specifically set forth in proposed N.J.A.C. 7:27C-8, the Federal emissions monitoring and reporting rules at 40 CFR Part 75 apply in such a way as to address the monitoring, recordkeeping, and reporting of $CO_2$ emissions for the purposes of the $CO_2$ Budget Trading Program.

The Model Rule uses the requirements of 40 CFR Part 75 (Part 75) (entitled Continuous Emission Monitoring) as the basis for the monitoring requirements for the $CO_2$ Budget Trading Program. Accordingly, the Department proposes to incorporate by reference the applicable provisions of Part 75.

The original purpose of Part 75 when promulgated in 1993 was to establish continuous emission monitoring (CEM) and reporting requirements under the USEPA's Acid Rain Program. The Acid Rain Program regulates electric generating units (EGUs) that burn fossil fuels such as coal, oil and natural gas and that serve a generator of more than 25 megawatts. The EGUs regulated by the proposed new rules fall into this category and many are also regulated by the Acid Rain Program. For these units, Part 75 requires continuous monitoring and reporting of sulfur dioxide and $CO_2$ mass emissions, $NO_x$ emission rate, and heat input. In October, 1998, the USEPA added Subpart H to Part 75, which provides a blueprint for the monitoring and reporting of $NO_x$ mass emissions and heat input under a State or Federal $NO_x$ emissions reduction program. Subpart H has since been adopted as the required monitoring methodology for $NO_x$ mass emissions and heat input under the $NO_x$ Budget Trading Program.

In May of 2005, EPA published two new air regulations, the Clean Air Interstate Rule (CAIR) and the Clean Air Mercury Rule (CAMR). These regulations provide model rules for cap-and-trade programs that can be adopted by the states, and address the reduction of fine particulate and ozone emissions by imposing emission caps on $SO_2$ and $NO_x$ mass emissions from EGUs in 28 states and the reduction of mercury mass emissions from coal-fired EGUs in all 50 states. Both CAIR and CAMR require Part 75 monitoring.

Part 75 specifies the types of continuous monitoring systems that may be used for each parameter (including $SO_2$, $NO_x$ and $CO_2$) and sets forth the operation, maintenance and quality assurance/quality control (QA/QC) requirements for each system. In most cases continuous emission monitoring systems (CEMS) are required, although in some instances other monitoring methodologies are allowed. Each of the various programs that require Part 75 monitoring

requires certain parameters to be monitored over specified time periods. For each affected unit, the specific parameters that must be monitored, the units of measure, and the averaging (or accounting) periods depend on which program(s) apply. When the same pollutant is regulated under two different programs, the Part 75 monitoring and reporting requirements for the pollutant are not necessarily consistent between the two programs.

Part 75 consists of nine Subparts, A through I, followed by a series of eleven Appendices, A through K. A brief description of each Subpart and Appendix follows.

**Subpart A (§§75.1-75.8)** defines the purpose of the regulation and the extent of its applicability. Subpart A also includes general Acid Rain Program provisions, compliance dates, prohibitions, and lists various methodologies that are incorporated into the rule by reference.

**Subpart B (§§75.10–75.19)** presents the general emission monitoring requirements for each pollutant. Special instructions are given for monitoring at common stack and multiple stack exhaust configurations.

**Subpart C (§§75.20-75.24)** presents the process for certification and recertification of the required continuous monitoring systems, provides the quality assurance and quality control (QA/QC) requirements for the systems, defines "out-of-control" periods, and requires bias adjustment of data from $SO_2$, $NO_x$ and flow monitors.

**Subpart D (§§75.30-39)** describes the missing data procedures that are used to determine the appropriate substitute data values, for unit operating hours in which the monitoring systems fail to provide quality-assured data.

**Subpart E (§§75.40-75.48)** describes the requirements that must be met for approval of an alternative monitoring system.

**Subpart F (§§75.50-75.59)** contains the recordkeeping requirements.

**Subpart G (§§75.60-75.67)** contains the reporting requirements. Instructions are provided for submitting notifications, monitoring plans, certification applications, emissions reports, and special petitions to the Administrator.

**Subpart H (§§75.70-75.75)** describes the $NO_x$ mass emission monitoring requirements for sources in a $NO_x$ mass emissions reduction program that adopts Part 75, such as the $NO_x$ Budget Program or a $NO_x$ trading program under the CAIR rule. Special instructions are provided for sources that report data only during the ozone season.

**Subpart I (§§75.80-75.84)** describes the mercury mass emission monitoring requirements for sources in a mercury mass emissions reduction program that adopts Part 75, such as a national mercury trading program under the CAMR rule.

**Appendix A** describes CEMS installation and certification test procedures, and provides

performance specifications for the CEMS and explains how to set the span and range of CEMS.

**Appendix B** describes the required on-going CEMS quality assurance tests and procedures for CEMS, and includes rules for data validation.

**Appendix C** provides guidelines for parametric and load-based missing data substitution.

**Appendix D** provides an optional protocol for estimating $SO_2$ mass emissions and heat input for gas-fired and oil-fired units.

**Appendix E** provides an optional protocol for estimating $NO_x$ emissions from gas-fired and oil-fired peaking units.

**Appendix F** provides equations for converting raw monitoring data into the appropriate units of measure.

**Appendix G** gives procedures for monitoring and calculating $CO_2$ mass emissions for Acid Rain Program units.

**Appendices H, I and J** are currently reserved.

**Appendix K** provides special operating instructions and quality-assurance requirements for sorbent trap monitoring systems, which are used to monitor mercury emissions.

For more information on 40 CFR Part 75, please refer to the USEPA's Plain English Guide to Part 75, available at http://www.epa.gov/airmarkets/emissions/docs/plain_english_guide_part75_rule.pdf.

For the purposes of complying with the proposed N.J.A.C. 7:27C-8, the applicable definitions in proposed N.J.A.C. 7:27C-1.2 apply, as well as the definitions at 40 CFR 72.2, the Federal definitions for the general provisions of the Acid Rain Program, incorporated by reference, as amended and supplemented, provided that the terms "$CO_2$ budget unit" and "$CO_2$ authorized account representative" will replace the terms "affected unit" and "designated representative," respectively, wherever they are used in the Federal rules at 40 CFR Part 75. Furthermore, where the term "continuous emissions monitoring system" or "CEMS" is used in 40 CFR Part 75 the definition of that term at N.J.A.C. 7:27C-1.2 applies.

For an owner or operator of a facility that includes a $CO_2$ budget unit and one or more units that is not a $CO_2$ budget unit, and that monitors $CO_2$ emissions pursuant to the Federal common, multiple, or bypass stack procedures at 40 CFR 75.72(b)(ii) or 40 CFR 75.16(b)(2)(ii)(B), proposed new N.J.A.C. 7-27C-8.1(b) requires the owner or operator of the $CO_2$ budget unit to monitor and report $CO_2$ mass emissions from the non-$CO_2$ budget unit according to the procedures for $CO_2$ budget units established in this proposed new subchapter.

Proposed N.J.A.C. 7:27C-8.1(c) requires the installation of systems to monitor $CO_2$ mass emissions in accordance with 40 CFR Part 75, except that the equation G-1 of Appendix G may not be used, as the use of this equation requires the collection of additional information that is not reported as part of a $CO_2$ budget source's quarterly emissions monitoring report (pursuant to the quarterly reporting requirements under 40 CFR Part 75) and, therefore, is not replicable based on the information that the $CO_2$ budget source would otherwise submit to the Department. The owner and operator of a $CO_2$ budget unit must perform all required equipment-certification tests and record, report, and quality-assure the data from the monitoring systems.

For a $CO_2$ budget unit that commences commercial operation before July 1, 2008, the deadline for compliance with proposed N.J.A.C. 7:27C-8.1(c) is January 1, 2009. For a $CO_2$ budget unit that commences commercial operation on or after July 1, 2009, the deadline is January 1, 2009, or, if later, a date based on the earlier of the elapsing of 90 unit-operating days or 180 calendar days since commencement of commercial operation. In the event a new stack is constructed or a flue is installed after these deadlines, the deadline is the earlier of 90 unit-operating days or 180 calendar days after emissions from the new construction or installation began.

If an owner or operator does not meet a compliance deadline in proposed N.J.A.C. 7:27C-8.1(d), the owner or operator of the $CO_2$ budget unit must determine, record, and report the maximum or minimum potential values for a number of parameters required in the determination of $CO_2$ mass emissions, in accordance with applicable Federal missing data procedures at 40 CFR 75.31(b)(2) or (c)(3) or section 2.4 of Appendix D of 40 CFR Part 75. Alternatively, the owner or operator of the $CO_2$ budget unit that missed the compliance deadline can determine, record, and report substitute data, using the applicable Federal missing data procedures, if there is continuity between the data streams for a particular parameter before and after the construction or installation of the new stack or flue.

Certain $CO_2$ budget units already qualify for optional emissions calculations and reporting for low mass emissions (LME) units under the CAIR and Acid Rain programs. These $CO_2$ budget units must comply with the requirements of this proposed new subchapter by using the Federal $CO_2$ emissions calculations for LME units at 40 CFR 75.19, Optional $SO_2$, $NO_x$ and $CO_2$ emissions calculation for low mass emissions (LME) units. If the $CO_2$ budget unit is subject to the requirements of the CAIR or Acid Rain programs but does not qualify for the optional $CO_2$ emissions calculations for LME units, it cannot comply with the requirements of this subchapter by using the $CO_2$ emissions calculations for LME units. However, a $CO_2$ budget unit that is not subject to the requirements of the CAIR or Acid Rain Programs will qualify for the optional $CO_2$ emissions calculations for LME units and can comply with the requirements of this subchapter by using the $CO_2$ emissions calculations for LME units if it has low annual $NO_X$ and $SO_2$ emissions (fewer than 100 tons and no more than 25 tons, respectively).

There must be prior written approval from both the USEPA Administrator and the Department for the use of any alternative monitoring system, alternative reference method, or any other alternative for the required continuous emissions monitoring system. The $CO_2$ budget unit must comply with the Federal requirements and the proposed new subchapter to account for

all $CO_2$ emissions discharged to the atmosphere. To ensure that all $CO_2$ mass emissions discharged into the atmosphere by a $CO_2$ budget unit are monitored and recorded, there can be no disruption of the approved emissions monitoring system, with the exception of periods of recertification or periods when calibration, quality assurance testing, or maintenance is performed. The approved emissions monitoring system may only be retired or permanently discontinued if it has been replaced for the same purpose by another approved, certified monitoring system or the $CO_2$ authorized account representative has submitted notification of the date of certification testing of a replacement monitoring system.

**N.J.A.C. 7:27C-8.2 Initial certification and recertification procedures**

Initial certification is not required for a monitoring system previously certified in accordance with 40 CFR Part 75 that meets applicable Federal quality-assurance and quality-control requirements at 40 CFR 75.21, Quality assurance and quality control requirements, and Appendix B, Quality Assurance and Quality Control Procedures, and Appendix D, Optional $SO_2$ Emissions Data Protocol for Gas-Fired and Oil-Fired Units, of 40 CFR Part 75. Recertification is, however, still required. A $CO_2$ authorized account representative can ask the Department to apply an EPA-approved petition for apportioning the $CO_2$ emissions rate measured in a common stack submitted pursuant to 40 CFR 75.72(b)(2)(ii) or 75.16(b)(2)(ii)(D) or for the approval of an alternative to any requirement prescribed at 40 CFR Part 75 to the requirements of the $CO_2$ Budget Trading Program. The Federal provisions for common stack apportionment petitions are at 40 CFR 75.72(b)(2)(ii) and 75.16(b)(2)(ii)(D). 40 CFR 75.13 (Specific provisions for monitoring $CO_2$ emissions) provides at 40 CFR 75.13(c) that units using a common stack may use the provisions of 40 CFR 75.16, by modifying the requirements to apply to $CO_2$ measurement, rather than $SO_2$ measurement, as appropriate for $CO_2$ measurement. The Federal rules at 40 CFR 75.66, Petitions to the Administrator, provide for the submission of petitions for approval of an alternative to any requirement prescribed at 40 CFR Part 75.

The initial certification and recertification procedures for a continuous emissions monitoring system and an excepted monitoring system under Appendix D of 40 CFR Part 75 are proposed at N.J.A.C. 7:27C-8.2(e) and (f). The initial certification and recertification procedures for a unit that qualifies to use the federal low mass emissions excepted monitoring methodology at 40 CFR 75.19 or that qualifies to use an alternative monitoring system under Subpart E of 40 CFR Part 75 are proposed at N.J.A.C. 7:27C-8.2(p) and (q), respectively.

All required initial certification testing must be performed by deadlines specified in proposed N.J.A.C. 7:27C-8.1(d). Where the required monitoring system is installed in a location with no previously installed monitoring system, the system must be certified in accordance with 40 CFR 75.20, the Federal requirements for initial certification and recertification procedures.

Certain replacements, modifications, and changes in a certified monitoring system may require the recertification of the monitoring system. Recertification is required if the Administrator or the Department determines that a replacement, modification, or change to a certified emissions monitoring system significantly affects the ability of the system to perform properly. Recertification of the continuous emissions monitoring system is also required if the Administrator or the Department determines that a replacement, modification, or change to the

flue gas-handling system or the unit's operation significantly changes the flow or concentration profile. Examples of changes that 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.

Proposed new N.J.A.C. 7:27C-8(g) through (n) apply to both the initial certification and the recertification of monitoring systems. In the case of recertification, the provisions that refer to certification and initial certification are to be read as applying to recertification, and where the Department issues a notice of disapproval of the certification application or a notice of disapproval of the certification status of a monitor, the provisions of 40 CFR 75.20(b)(5) (approval or disapproval of request for recertification) and 40 CFR 75.20(g)(7) (initial certification and recertification procedures for low mass emission units) must be followed instead of those at proposed N.J.A.C. 7:27C-8.2(o).

Notice of the dates of certification is to be submitted to the Department, USEPA Region 2 and the Administrator in accordance with the Department's notification requirements at proposed N.J.A.C. 7:27C-8.4; that is, in accordance with 40 CFR 75.61, the Federal requirements for notifications.

A complete certification application, including all the information required in the Federal rules for an initial certification or recertification application at 40 CFR 75.63, must be submitted to the Department for each monitoring system.

The Federal rules at 40 CFR 75.20(a)(3) provide for the provisional certification (or recertification) of a monitor. The Department proposes to determine the provisional certification date for a monitor in accordance with the applicable Federal provisions. The provisionally certified (or recertified) monitor can be used for no more than 120 days after the Department receives the complete certification (or recertification) application. If the Department does not invalidate the provisional certification (or recertification) the Department will consider quality-assured data during that provisional certification period to be valid.

The Department must act within 120 days after receiving a complete certification application by issuing a written notice of approval or disapproval of the certification application. If the application is complete and shows that the monitoring system meets the applicable Federal performance requirements, the Department will issue a written notice of approval. If the Department does not timely issue a notice of approval or disapproval, the monitoring system will be deemed certified, if it meets the applicable Federal performance requirements. As appropriate, the Department will issue a written notice of incompleteness, advising the $CO_2$ authorized account representative what information must be submitted to complete the application, and by when. If the application is not timely completed in response to this notice of incompleteness, the Department may issue a written notice of disapproval. The Department will also issue a written notice of disapproval of any application for a monitoring system that does not meet the Federal performance requirements. The notice of disapproval invalidates any provisional certification, and invalidates the data measured and recorded by the uncertified monitoring system. The Department may also issue a notice of disapproval of the certification

status of a monitor when a subsequent audit and review of the initial certification or recertification application show that the monitor should not have been certified or recertified, as provided in proposed N.J.A.C. 7:27C-8.3(b).

Proposed N.J.A.C. 7:27C-8.2(*o*) includes the requirements for the owner or operator of a $CO_2$ budget source with a disapproved monitoring system. Within 30 unit operating days after the notice of disapproval is issued, all failed tests or requirements must be repeated, as reflected in a submitted notification of certification retest dates and new certification application. Proposed N.J.A.C. 7:27C-8.2(*o*) also provides for the substitution of values for invalidated data during the time frame established by the relevant Federal provisions at 40 CFR 75.20(a)(5)(i) (procedures for loss of certification) and (g)(7)(procedures for loss of certification or recertification for excepted monitoring systems under appendices D and E to this part).

Proposed N.J.A.C. 7-27C-8.2(p) requires $CO_2$ budget units that qualify as low mass emission units and that use the excepted methodologies under 40 CFR 75.19 to satisfy the applicable Federal certification and recertification requirements at 40 CFR 75.19(a)(2) and 75.20(h) by a $CO_2$ budget unit that is qualified to use the low mass emissions excepted methodology. 40 CFR 75.19(a)(2) provides initial qualification of a unit as a low mass emissions unit if the Administrator certifies the use of low mass emissions methodology. 40 CFR 75.20(h) provides for the initial certification and recertification procedures for low mass emission units using the excepted methodologies at 40 CFR 75.19. If the owner or operator of a $CO_2$ budget unit that qualifies as a low mass emission unit elects to certify a fuel flow meter for heat input determinations, additional certification and recertification requirements apply, as provided at 40 CFR 75.20(g).

If the owner or operator of a $CO_2$ budget unit intends to use an alternative monitoring system under Subpart E of 40 CFR Part 75, the $CO_2$ authorized account representative must comply with the applicable Federal notification and application procedures of 40 CFR 75.20(f).

**N.J.A.C. 7:27C-8.3 Out-of-control periods**

Data must be substituted, consistent with applicable Federal procedures, for data from a monitoring system failing to meet the quality assurance and quality control requirements or data validation requirements of 40 CFR Part 75.

If a field audit or an audit of information submitted to the Department and a review of the initial certification or recertification application reveal failure to meet a performance specification or other applicable requirement, the Department or Administrator will issue a notice of disapproval of the certification status of a monitoring system, and thus revoke prospectively the certification status of the monitoring system. In such an instance, the owner or operator of a $CO_2$ budget unit is required to pursue initial certification or recertification for the monitoring system. From the time the notice of revocation is issued until subsequently approved initial certification or recertification tests are completed, the data measured and recorded by the uncertified monitoring system will not be considered valid quality-assured data.

**N.J.A.C. 7:27C-8.4 Notifications**

Proposed N.J.A.C. 7:27C-8.4 requires all written notification submitted pursuant to the requirements of proposed N.J.A.C. 7:27C-8 to comply with the notification requirements of 40 CFR 75.61, the Federal requirements for a number of notifications relating to continuous emission monitoring reporting requirements, including initial certification and recertification tests, new units and new stacks, unit shutdowns, and re-commencement of commercial operations, among others.

**N.J.A.C. 7:27C-8.5 Recordkeeping and reporting**

Proposed N.J.A.C. 7:27C-8.5 requires compliance with the Federal $NO_X$ mass emissions record keeping and reporting requirements at 40 CFR 75.53, in addition to the requirements of proposed N.J.A.C 7:27C-8, and submission of a monitoring plan, consistent with the Federal requirements at 40 CFR 75.62, the Federal rules governing the submission of such plans. As with the application of the Federal rules at 40 CFR Part 75 throughout the proposed subchapter, the Federal provisions are to be read within the context of measuring and recording $CO_2$ emissions.

Within 45 days after completing all required initial certification or recertification tests, the $CO_2$ authorized account representative must submit a certification or recertification application to the Department. The application must include information required under 40 CFR 75.53(g) and (h), Federal provisions relating to the required contents of a monitoring plan, and 40 CFR 75.63, the Federal provisions relating to the submission of initial certification or recertification applications.

The $CO_2$ authorized account representative must also submit quarterly reports in a USEPA- or Department-prescribed electronic format, reflecting the $CO_2$ mass emissions data for the $CO_2$ budget unit, within 30 days after the end of the reported calendar quarter. Quarterly reporting begins with the calendar quarter beginning January 1, 2009 for units that commenced commercial operation before July 1, 2008. For units commencing commercial operation on or after July 1, 2008, reporting begins with the calendar quarter of the date of provisional certification or the calendar quarter of the deadline for initial certification, whichever is earlier.

The applicable provisions of 40 CFR Part 75, Subparts G and H (reporting requirements and $NO_X$ mass emissions provisions, respectively) and 40 CFR 75.64 (quarterly reports) control the submission of quarterly reports, including the information to be included therein. The proposed new rules do not include the opacity and $SO_2$ provisions in Subpart G of 40 CFR Part 75.

Each submitted quarterly report must be supported by a compliance certification that includes statements to the effect that the submitted monitoring data was properly recorded and quality-assured, that substitute values for units with add-on $CO_2$ emissions controls and $CO_2$ concentration values substituted for missing data do not systematically underestimate $CO_2$ emissions, and that add-on emissions controls were operating consistent with the Federal requirements at Appendix B of 40 CFR Part 75. For a unit with add-on $CO_2$ emissions controls, the substitution of data must comply with the requirements of 40 CFR 75.34(a)(1), the Federal

provisions governing the use of missing data substitution procedures in 40 CFR 75.31 through 33 by units with such add-on emission controls.

**N.J.A.C. 7:27C-8.6 Petitions**

The $CO_2$ authorized account representative of a $CO_2$ budget unit that is subject to an Acid Rain emissions limitation can petition the Administrator under the Federal regulations at 40 CFR 75.66, Petitions to the Administrator, requesting approval to apply an alternative to any requirement of 40 CFR Part 75, including an alternative to a requirement concerning any additional CEMS required under the Federal common stack provisions of 40 CFR 75.72 or concerning a $CO_2$ concentration CEMS used under 40 CFR 75.71(a)(2) (specific provisions for monitoring $NO_x$ and heat input for the purpose of calculating $NO_x$ mass emissions – as applied to coal-fired units). In addition, the $CO_2$ authorized account representative of a $CO_2$ budget unit that is not subject to an Acid Rain emissions limitation can also petition the Administrator under the Federal regulations at 40 CFR 75.66, Petitions to the Administrator, to apply an alternative to any requirement of 40 CFR Part 75. In all three cases, the petition that is submitted to the Administrator must also be submitted to the Department. The application of any alternative to any requirement of 40 CFR Part 75 is in accordance with the proposed N.J.A.C. 7:27C-8 only if the Administrator approves the petition in writing and the Department also subsequently approves the petition.

**N.J.A.C. 7:27C-8.7 $CO_2$ budget units that co-fire eligible biomass**

Proposed N.J.A.C. 7:27C-8.7 provides the monitoring and reporting requirements for a $CO_2$ budget unit that co-fires eligible biomass fuel as a compliance mechanism under the $CO_2$ Budget Trading Program. Proposed N.J.A.C. 7:27C-6.9(b) allows a $CO_2$ budget unit that co-fires eligible biomass to deduct the $CO_2$ emissions related to the firing of such biomass fuel from the $CO_2$ budget unit's compliance obligation (the $CO_2$ budget unit's emissions limitation). This means that the $CO_2$ budget unit need not submit $CO_2$ allowances to the Department for $CO_2$ emissions from the co-firing of eligible biomass reported to the Department pursuant to proposed N.J.A.C. 7:27C-8.7. For a $CO_2$ budget unit that claims such a compliance deduction, the $CO_2$ authorized account representative for the $CO_2$ budget unit must submit quarterly reports to the Department that include eligible biomass fuel input, heat input from eligible biomass, and $CO_2$ emissions from the combustion of eligible biomass for the $CO_2$ budget unit during the reporting quarter, as well as additional information that supports the calculation of this reported data.

More specifically, the quarterly report must contain information regarding: each shipment of solid eligible biomass fuel fired during the quarter (total eligible biomass fuel input and "as-fired" moisture content); each type of eligible gaseous biomass fuel fired during a quarter (the total eligible biogas fuel input, and the "as-fired" biogas density and moisture content); and each distinct type of eligible biomass fuel fired during the quarter (the dry basis carbon content, dry basis higher heating value, total dry basis eligible biomass fuel input in pounds, total eligible biomass fuel heat input, in MMBtu, and a chemical analysis of the fuel, including heat content and carbon content). The quarterly report must also include the total amount of emitted $CO_2$, in tons, and the total amount of heat input, from the firing of all eligible biomass fuel types. The quarterly report must also include a description and documentation of the monitoring technology and fuel sampling methodology used during the reporting quarter. In providing this information,

the owner or operator of the $CO_2$ budget unit must use fuel sampling methods and technology consistent with those provided in the New York State Renewable Portfolio Standard Biomass Guidebook, which the Department proposes to incorporate by reference. This guidebook provides detailed biomass monitoring guidelines and is accepted by the participating states as providing best-practice monitoring guidance for electric generating units that co-fire biomass.

Proposed N.J.A.C. 7:27C-8.7 provides the calculations for determining the total dry weight for each distinct eligible biomass fuel fired by a $CO_2$ budget unit, and the $CO_2$ emissions from the $CO_2$ budget unit due to the firing of eligible biomass fuel. However, if a $CO_2$ budget unit fired only eligible biomass during a reporting quarter, it must instead report the $CO_2$ emissions in accordance with proposed N.J.A.C. 7:27C-8.1 through 8.6, since it is not necessary to calculate the portion of the fuel that is eligible biomass. Proposed N.J.A.C. 7:27C-8.7 also provides the calculations for determining the heat input to a $CO_2$ budget unit due the firing of eligible biomass.

**N.J.A.C. 7:27C-8.8 Additional requirements to provide output data**

Proposed N.J.A.C. 7:27C-8.8 requires $CO_2$ budget units to annually report net electric output and net thermal output to the Department and provides the specific requirements for such reporting.

A $CO_2$ budget unit that participates in the wholesale electricity markets administered by either the regional transmission organization, PJM Interconnection (PJM), or the New York independent system operator (NYISO), must submit to the Department the same megawatt-hour value submitted to these organizations and certify that the value reported reflects the total electrical output used to determine settlement of electricity transactions involving the $CO_2$ budget unit. A $CO_2$ budget unit that does not participate in the wholesale electricity markets administered by PJM or NYISO must report net electrical output in accordance with a monitoring plan approved by the Department, as discussed below.

A $CO_2$ budget source that sells steam must use billing meters to determine and report net steam output. For a $CO_2$ budget source that does not use billing meters (for example, if the steam is used on-site by the company that owns the $CO_2$ budget unit) or if steam output is combined with output from a non-$CO_2$ budget unit prior to measurement by a billing meter, the $CO_2$ budget source must report net useful steam in accordance with a Department-approved output monitoring plan, as discussed below. If data for steam output is unavailable, a $CO_2$ budget source must instead report the heat input that was used to provide useful steam output, as a surrogate for steam output, in accordance with a Department-approved output monitoring plan.

Each $CO_2$ budget source must submit an output monitoring plan to the Department for approval. The output monitoring plan must include a diagram of the electrical and/or steam system, a description of each monitoring system, a description of all quality assurance and quality control activities that will be performed, and documentation of any output values that will be used as a missing data value where there may be periods of invalid data reported by the output monitoring system.

The $CO_2$ authorized account representative must certify to the Department that the output monitoring system consists entirely of billing meters or meets accuracy requirements for non-billing meters specified at proposed N.J.A.C. 7:27C-8.8. This certification may be submitted with the compliance certification submitted to the Department pursuant to proposed N.J.A.C 7:27C-8.5(d)3 that supports the submittal of quarterly emissions monitoring reports to the Department. For billing meters, the $CO_2$ authorized account representative must certify that any output values are the same as the values that were used in billing for the output. For non-billing meters, the $CO_2$ authorized account representative must certify that the output monitoring system meets either an accuracy of within 10.0 percent of the reference value for the monitoring system as a whole (system approach to accuracy) or each component monitor of the monitoring system meets an accuracy of within 3.0 percent of the full scale value (a component approach to accuracy), whichever is less stringent.

The owner or operator of a $CO_2$ budget source must perform certain ongoing quality assurance and quality control activities to maintain the output system. Where billing meters are used, no quality assurance and quality control activities are required beyond those already performed by the owner or operator of the $CO_2$ budget source. Non-billing meters require an initial certification and calibration, but do not require periodic recalibration unless the equipment is physically changed, provided that pressure and temperature transmitters accompanying an orifice plate must be periodically retested. For other types of monitoring equipment, recalibration or reverification of the meter accuracy must be performed at least once every two years, unless there is a consensus standard for such recalibration and reverification that is approved by the Department as part of the output monitoring plan for the $CO_2$ budget source. If testing of a piece of monitoring equipment shows that the output readings are not accurate to the certification values referred to above, data will remain invalid until the piece of equipment meets the accuracy test referenced above or is replaced with a new piece of equipment that does.

The owner or operator of a $CO_2$ budget source must retain for 10 years the data used to monitor, determine, or calculate net electrical output and net thermal output.

By March 1 of every year, the $CO_2$ authorized account representative of a $CO_2$ budget source must submit, electronically and in hard copy, an annual output monitoring report that includes megawatt-hours of electricity and useful steam output for each $CO_2$ budget unit for the prior year. The $CO_2$ authorized account representative must certify in the monitoring report his or her authority to make the submission, a personal familiarity with the statements, a belief in the overall veracity of the submitted information, and an awareness of the penalties for falsehoods in the report.

**Subchapter 9. (Reserved)**

The Department is reserving this subchapter consistent with reserved provisions in the RGGI Model Rule. These provisions are reserved in anticipation of the potential for future expansion of the $CO_2$ Budget Trading Program to other categories of emissions sources.

**Subchapter 10. $CO_2$ Emissions Offset Projects**

**N.J.A.C. 7:27C-10.1 Purpose**

As explained previously in this summary, the purpose of proposed new N.J.A.C. 7:27C-10 is to provide compliance flexibility by awarding $CO_2$ offset allowances for real, additional, verifiable, enforceable and permanent CO2 –equivalent emission reductions or carbon sequestration from $CO_2$ emissions offset projects and $CO_2$ emissions credit retirements. These $CO_2$ offset allowances can then be used, within the limits established in proposed N.J.A.C. 7:27C-6, by any $CO_2$ budget source to comply with this chapter.

**N.J.A.C. 7:27C-10.2 Definitions**

The Department is proposing definitions of terms that are used in proposed N.J.A.C. 7:27C-10. The Department took many of these definitions from the offset projects provisions in the RGGI Model Rule developed by the RGGI Staff Working Group. The balance of the proposed terms simplify and clarify the proposed subchapter and conform it to the New Jersey rulemaking requirements, as discussed below.

The definitions from the RGGI Model Rule are as follows: "anaerobic digester," "anaerobic digestion," "anaerobic storage," "ANSI," "ASHRAE," "biogas," "boiler (commercial)," "boiler (residential)," "building envelope "$CO_2$e," "commercial building" "condensing mode," "cooperating regulatory agency," "energy conservation measure" or "ECM" or "energy efficiency measure" or "EEM," "energy performance," "energy services," "forested condition," "furnace (residential)," "HVAC system," "IESNA," "market penetration rate," "non-forested condition," "offset project," "on-site combustion," "passive solar," "project commencement," "regional-type anaerobic digester," "renewable portfolio standard," "residential building," "Residential Energy Services Network" or "RESNET," "$SF_6$-containing operating equipment," "system benefit fund," "total solids," "transmission and/or distribution entity," "verification," "volatile solids," "whole-building energy performance," "whole-building retrofit" and "zero net energy building."

Rather than refer repeatedly to "an independent verifier accredited pursuant to section XX-10.6" as is done in the Model Rule, the Department proposes to define "accredited independent verifier" as shorthand for that concept.

While the term "afforestation" is used in the RGGI Model Rule, it is not defined, per se. The Department proposes to define this term for clarity. Similarly, the term "allocation period" is used in both the Model Rule and the proposed N.J.A.C. 7-27C-10, in connection with the award of $CO_2$ offset allowances, but is not defined in the Model Rule. The Department proposes to define this term, in case its meaning is not clear from the context in which it appears.

The following terms are used, but not defined, in the RGGI Model Rule. The Department proposes to define them, in case their meanings are not clear from the context in which they are used: "AFUE," "animal unit," "carbon pool," "carbon stock," "energy factor" and "new building."

Proposed "AFUE" incorporates by reference the Federal test procedures for determining this value, specifically, 10 CFR Part 430, Subpart B, Appendix N, the uniform test method for measuring the energy usage of furnaces and boilers under the Federal Energy Conservation Program for Consumer Products.

For the definition of "acid rain emissions limitation" the Department proposes to incorporate by reference the definition of that term by the USEPA at 40 CFR 72.2, where the USEPA has codified its definitions for the general provisions of the Acid Rain Program. The USEPA defines this limitation, for purposes of nitrogen oxides emissions, as the applicable limitation under 40 CFR Part 76. For purposes of sulfur dioxide emissions, the USEPA defines this limitation as a tonnage equivalent of certain specified allowances authorized to be allocated to the affected units at a source or to an opt-in source under section 410 of the Clean Air Act, 42 U.S.C. 7401, et seq., as adjusted by other specified allocated or transferred allowances. This defined term is used in the proposed new rules only as a label to distinguish between those $CO_2$ budget units that are or are not subject to the acid rain emissions limitation for the purposes of the requirements of the $CO_2$ Budget Trading Program.

Proposed "ANSI/ASHRAE/IESNA Standard 90.1-2007" and "ASHRAE Guideline 14-2002" are defined to avoid having to use the full name of the referenced documents, which are incorporated by reference, as amended and supplemented. ANSI/ASHRAE/IESNA Standard 90.1-2007 provides minimum energy-efficient requirements for the design and construction of new buildings and their systems, new portions of buildings and their systems, and new systems and equipment in existing buildings. This standard also provides criteria for determining compliance with these requirements. ASHRAE Guideline 14-2002 provides guidelines for reliably measuring the energy and demand savings due to building energy management projects. It provides for using measured pre-retrofit and post-retrofit data to quantify the billing determinants used for calculation of energy and demand savings payments to energy service companies, utilities, or others and includes the determination of energy and demand savings from individual facilities or meters.

Proposed "$CH_4$" is defined so that it can be used in place of "methane" in calculations in the proposed subchapter.

Proposed "$CO_2$ emissions credit retirement" is taken from the de facto definition of that term in the RGGI Model Rule in the provisions regarding eligible $CO_2$ emissions credit retirements.

Proposed "energy factor" incorporates by reference the Federal test procedures for determining this ratio, specifically, 10 CFR Part 430, Subpart B, Appendix E, the uniform test method for measuring the energy usage of water heaters under the Federal Energy Conservation Program for Consumer Products.

The RGGI Staff Working Group discussed adding a definition for the term "non-census water," because the meaning of that term is not evident from the context in which it is used in the

RGGI Model Rule. The Department proposes to define the term consistent with these discussions.

Proposed "permanent retirement" is taken from the definition of "permanently retired" in the RGGI Model Rule. The Department proposes to define "permanent retirement" instead of "permanently retired" because it is the former term that is used in both the RGGI Model Rule, in the provisions regarding the eligibility of $CO_2$ emissions credit retirements, and in proposed N.J.A.C. 7-27C-10, in the proposed definition of "$CO_2$ emissions credit retirement."

Proposed "project sponsor" clarifies that this term applies to both the sponsor of an offset project and the sponsor of a $CO_2$ emissions credit retirement under the proposed subchapter.

**N.J.A.C. 7:27C-10.3 General requirements**

Proposed N.J.A.C. 7:27C-10.3 establishes the general requirements for offset projects and $CO_2$ emissions credit retirements for which the Department will award $CO_2$ offset allowances, including the timing, eligibility and qualification requirements, and exclusions. It also addresses the timing for the allocation periods for which $CO_2$ offset allowances will be awarded, and addresses remedies for non-compliance by a project sponsor. (Additional requirements specific to each of the five categories of projects are proposed at N.J.A.C. 7:27C-10.5 through 10.9.)

In order to be eligible, an offset project must fall under one of five eligible offset project categories. Moreover, an offset project must be located in New Jersey or partly in New Jersey, provided the majority of emissions reductions or carbon sequestration is projected to occur in New Jersey or in another state or jurisdiction, provided a cooperating regulatory agency in that state or jurisdiction has entered into a memorandum of understanding with counterpart agencies in the participating states.

The Department will not award $CO_2$ offset allowances to a project that was commenced before December 20, 2005, which is the original date of signature of the RGGI Memorandum of Understanding by the original seven participating states. This proposed provision addresses project additionality by precluding offset projects that were commenced prior to the announcement by the participating states to develop the $CO_2$ Budget Trading Program. For projects that predated announcement of the program, no reasonable argument can be made that the offset component of the program is responsible for the emissions reductions that will be achieved by these projects. Such projects are therefore not considered additional and are not eligible for the award of $CO_2$ offset allowances.

The project sponsor must meet all the requirements of the proposed subchapter, including the requirement to establish a general account and make certain representations in the consistency application at proposed N.J.A.C. 7:27C-10.4. The Department will not award $CO_2$ offset allowances if the offset project or $CO_2$ emissions credit retirement is otherwise required by law, regulation, or administrative or judicial order, or receives funding or incentives from certain other sources, or is awarded credits or allowances under another greenhouse gas program. The intent of these proposed provisions is to address project additionality by assuring that an offset

project was not the result of a legal requirement, and by providing reasonable assurance that other financial incentives were not responsible for a decision by the project sponsor to develop the offset project. The Department will not award $CO_2$ offset allowances to a project with an electric generation component unless the legal rights to all credits from the project, other than $CO_2$ offset allowances, that can be used to comply with some other regulatory requirement have been transferred to the Department. Again, the intent of these proposed provisions is to address project additionality by providing reasonable assurance that the project sponsor is not developing the offset project as a result of incentives anticipated to be accrued by a project through other credits that can be used for compliance with another market-based environmental regulation, such as a state renewable portfolio standard, or sold in another environmental market. The Department determined that some potential offset projects, such as landfill gas offset projects, could represent projects that are primarily driven by other incentives, unless limitations are placed on the receipt of such incentives. The proposed provisions require project sponsors to "pick a market" by relinquishing the rights to other credits, such as renewable energy credits, that could be accrued by an offset project and sold in another environmental credit market.

The award by the Department of $CO_2$ offset allowances for emissions credit retirements is limited to the occurrence of a stage-two trigger event, which is described previously in this Summary, and defined at proposed N.J.A.C. 7:27C-1.2. This proposed provision only allows for the use of international carbon credits or allowances if $CO_2$ allowance prices rise to $10.00 per $CO_2$ allowance. This limits compliance options to actions taken within the capped electric power sector or through domestic offset projects, unless $CO_2$ allowance prices rise, in which case the Department proposes to provide additional compliance flexibility to $CO_2$ budget sources by expanding eligible offset categories to international greenhouse gas emissions reductions represented by the retirement of international greenhouse gas allowances or credits.

Except in the case of an afforestation offset project, when the Department awards $CO_2$ offset allowances for an offset project that has received a consistency determination under proposed N.J.A.C. 7:27C-10.4, it will do so for an initial 10-year allocation period. The project will qualify for the award of $CO_2$ offset allowances for a second 10-year period, provided the Department issues a subsequent consistency determination in response to a subsequent consistency application submitted before the initial allocation period expired. In the case of an afforestation offset project, the Department will award $CO_2$ offset allowances for an initial 20-year allocation period. Again, following the process outlined above for the other offset project categories, the Department will award $CO_2$ offset allowances for a second and third 20-year allocation period, provided the Department issues a subsequent consistency determination in response to a subsequent consistency application submitted before the previous allocation period expired.

These proposed allocation periods provide a reasonable assurance that offset projects are not awarded $CO_2$ offset allowances for actions that represent standard market practice. As discussed previously in this Summary, the proposed offset provisions are designed to provide reasonable assurance that offset projects represent actions that are above and beyond standard market practice (representing project additionality) and utilize benchmarks and performance standards to achieve this. The allocation periods described above recognize that market

conditions and technical practices and equipment change over time and that offset projects should only be awarded $CO_2$ offset allowances for actions that remain above standard market practice. For offset projects other than afforestation projects, the Department, in consultation with the other participating states, determined that after an initial 10-year period an offset project should be re-evaluated to determine whether the project is additional (through the requirement to submit a new consistency application), and that after 20 years following the initial offset project investment, any actions undertaken as part of an offset project should no longer be considered above and beyond standard market practice, and should no longer be qualified for the award of $CO_2$ offset allowances. In limiting these allocation periods, the Department acknowledges that the requirements for offset projects established in the proposed new rules will likely need to be amended over time as market conditions, equipment, and technical practices evolve in order to ensure that the Department's regulatory provisions for evaluating offset project additionality remain valid. The Department also determined, in consultation with other participating states, that a 10-year allocation period was not appropriate for afforestation projects, which involve landuse actions that typically occur over longer time horizons. The proposed provisions therefore provide for the re-evaluation of afforestation projects at the end of each of the first two 20-year allocation periods, and limit the ability for afforestation projects to qualify for the award of $CO_2$ offset allowances after 60 years.

In order that the Department can inspect the physical location of the offset project for compliance, the project sponsor will provide the Department a written access agreement. If the project does not comply with this subchapter, the Department can revoke any issued approvals. The Department can also revoke and retire $CO_2$ offset allowances where the project sponsor has not complied with this subchapter.

**N.J.A.C. 7:27C-10.4 Consistency application process**

Proposed N.J.A.C. 7:27C-10.4 establishes how, when, and by whom a consistency application for an offset project or for a $CO_2$ emissions credit retirement is submitted, and addresses the Department's consistency application review process and the consistency determination process.

For an offset project, the consistency application process is the first step of a two-step allowance award process whereby an offset project is determined to qualify for the award of $CO_2$ offset allowances. The second step in this process is the submittal by the project sponsor, and approval by the Department, of a monitoring and verification report under proposed N.J.A.C. 7:27C-10.11. For a $CO_2$ emissions credit retirement, the issuance of a consistency determination by the Department in response to the receipt of a consistency application under proposed N.J.A.C. 7:27C-10.11 is the sole basis for the award of $CO_2$ offset allowances.

The process begins, for both the sponsor of an offset project or a $CO_2$ emissions credit retirement, with the establishment of a general account and the designation of a $CO_2$ authorized account representative, who will be responsible for all submissions to the Department related to the proposed new subchapter. The Department will deny any consistency application that misses the submission deadline, which, for projects commenced on or after January 1, 2009, is 180 days (approximately six months) after the project is commenced. In the case of a project that

commenced before January 1, 2009, the deadline is June 30, 2009. There is no deadline for submitting a consistency application for a $CO_2$ emissions credit retirement; however, the Department will only award $CO_2$ offset allowances for a $CO_2$ emissions credit retirement after the occurrence of a stage-two trigger event.

The consistency application for an offset project contains information identifying the project sponsor and provides information about the offset project, including a project description, demonstration that the project meets all applicable requirements of the proposed new subchapter, demonstration of compliance with the regulatory requirements of the cooperating regulatory agency in a non-participating state (if the offset project is located in a non-participating state), the emissions baseline, and an explanation of the quantification, monitoring, and verification methods to be employed in demonstrating the emissions reduction, avoided emissions, or carbon sequestration from the offset project. In addition, the project sponsor must certify in the consistency application an understanding of the requirements governing the application process and that the project sponsor holds the legal rights to the project or acts on behalf of a person holding these rights. As part of such certification, the project sponsor also authorizes the Department to audit the project and gives the Department the right to enter the physical location of the offset project. The consistency application also includes a certification of compliance by the project sponsor for offset projects for which the sponsor has received $CO_2$ offset allowances under this subchapter or the corresponding rules of another participating state. The sponsor of an offset project must also disclose any other voluntary or mandatory program to which greenhouse gas emissions data related to the offset project has been previously reported or will be reported. An accredited independent verifier must review the consistency application. The accredited independent verifier must sign a verification report and certification that the verifier has evaluated the information submitted to demonstrate that the offset project meets the applicable requirements of the proposed new subchapter, including the adequacy and validity of information submitted to demonstrate the project's emissions baseline, the adequacy of the project's monitoring and verification plan, and any other supporting material for which the Department may require the evaluation of an accredited independent verifier in order to fully review whether the offset project meets the applicable requirements of the proposed subchapter. The accreditation of independent verifiers is addressed at proposed N.J.A.C. 7:27C-10.10.

In the case of a $CO_2$ emissions credit retirement, the consistency application is submitted in a format prescribed by the Department with sufficient information to establish the eligibility of the $CO_2$ emissions credit, and demonstrate that it meets the ownership and retirement requirements. The Department will provide consistency application materials on the Department's website.

To avoid any duplication between the review of a consistency application by the Department and by another participating state, the Department will not accept a consistency application for either an offset project or a $CO_2$ emissions credit retirement that has already been submitted in another participating state, unless, in the case of an offset project, the other participating state has rejected the consistency application only because more of the projected emissions reductions, avoided emissions, or carbon sequestration from the offset project will occur in New Jersey than in any other participating state.

The Department will make a completeness determination; that is, it will determine whether the consistency application provides all the required information in the required format, within 30 days of receipt. Once it makes the completeness determination, the Department will make a consistency determination, and so notify the project sponsor within 90 days. A consistency determination represents a determination by the Department that the offset project or the $CO_2$ emissions credit retirement is consistent with proposed N.J.A.C. 7:27C-10.3 and 10.4 and the applicable offset project standards at proposed N.J.A.C. 7:27C-10.5 through 10.9.

**N.J.A.C. 7:27C -10.5 $CO_2$ emissions offset project standards – landfill methane ($CH_4$) capture and destruction**

The Department proposes at N.J.A.C. 7:27C-10.5 to award $CO_2$ offset allowances for offset projects that reduce emissions of methane, a greenhouse gas, from landfills. A landfill methane offset project involves the capture of landfill gas from a gas collection system and the combustion of the gas. The combustion of the landfill gas coverts methane, a greenhouse gas with a global warming potential of 23 times that of $CO_2$, to $CO_2$, a greenhouse gas with a global warming potential of one, a process referred to as "methane destruction." The resulting conversion of the emitted gas from a gas with a higher global warming potential (formerly methane) to a gas with a significantly lower global warming potential ($CO_2$) results in a net reduction in greenhouse gas emissions. A landfill methane offset project must meet the eligibility and qualification requirements for offset projects elsewhere in this proposed new subchapter, and cannot be at a landfill that is already subject to the Federal standards applicable to municipal solid waste landfills at 40 CFR Part 60, Subpart Cc and WWW. These provisions address the "regulatory additionality" of such projects, as discussed previously in this Summary, by ensuring that a landfill methane offset project is not the result of a Federal regulatory mandate to flare landfill gas for other environmental control purposes.

In addition, the offset project sponsor must submit a project narrative that identifies the owners and operators of both the offset project and the landfill where the project will occur, and provides other information regarding the landfill itself and the equipment to be installed as part of the offset project. The Department proposes calculations to be employed in determining both the emissions baseline and emissions reductions attributable to the offset project. Emissions reductions represent the potential landfill emissions that would have occurred in the absence of the offset project, as determined based on the methane destroyed by the offset project, less a 10 percent oxidation factor to account for the portion of collected methane that would have oxidized in the landfill cover if not collected for destruction. This oxidation factor is a conservative estimate to ensure that the number of $CO_2$ offset allowances awarded does not exceed the actual $CO_2$-equivalent emissions avoided by the offset project.

The offset project must employ a landfill gas collection system that provides methane flow rate and methane concentration data. Annual monitoring and verification reports must include monthly flow data and methane concentration data. The consistency application must include a monitoring and verification plan. The monitoring and verification plan must include a quality assurance and quality control program appropriate to the utilized monitoring equipment, and additional provisions regarding the use of measuring and monitoring equipment, retention of

maintenance records, and certification of the plan. An accredited independent verifier must certify the monitoring and verification plan. The landfill gas composition must also be verified annually, using USEPA Test Method 3C, Determination of Carbon Dioxide, Nitrogen, and Oxygen from Stationary Sources, incorporated by reference, as amended and supplemented. This method includes an analysis of methane in samples from municipal solid waste landfills and other sources. A portion of the sample is injected into a gas chromatograph and the concentration of the methane is determined by using a thermal conductivity detector and integrator.

**N.J.A.C. 7:27C-10.6 $CO_2$ emissions offset project standards – reductions in emissions of sulfur hexafluoride**

The Department proposes at N.J.A.C. 7:27C-10.6 to award $CO_2$ offset allowances for offset projects that reduce emissions of sulfur hexafluoride ($SF_6$), a greenhouse gas, from an electricity transmission and distribution entity (defined as the equipment within the service territory of an electricity transmission and/or distribution company that is used to transmit electricity). Because of its inertness and dielectric (non-conductive) properties, $SF_6$ is used in the electric power industry for electrical insulation, current interruption, and arc quenching in the transmission and distribution of electricity. Sulfur hexafluoride is used extensively in circuit breakers, gas-insulated substations, and switchgear.

An offset project that addresses $SF_6$ emissions must meet the eligibility and qualification requirements elsewhere in this proposed new subchapter, and must represent incremental actions to address $SF_6$ emissions taken beyond those taken in the baseline year. The proposed rules require those actions to be consistent with guidelines provided by the International Electrotechnical Commission, which provides guidance related to the handling and management of $SF_6$,in a technical report entitled "High-voltage switchgear and control gear—Use and handling of sulfur hexafluoride ($SF_6$) in high-voltage switchgear and control gear," (CEI/IEC 1634, 1995-04), incorporated by reference, as amended and supplemented. This report deals with the use of $SF_6$ gas and those of its chemical derivatives which are produced in switchgear and control gear during normal service and under certain abnormal conditions. The risks to human health and the environment associated with contact with $SF_6$ gas and suitable precautions are discussed for each stage in the normal life cycle of an item of equipment and under abnormal conditions. The Department proposes the calculations to be employed in determining the entity-wide baseline $SF_6$ emissions rate for a transmission and/or distribution entity, which must not exceed a regional performance standard set forth in proposed Table 1, unless the entity's service territory is predominantly urban in nature and the entity has other characteristics that otherwise prevent optimal management of $SF_6$. Documentation and information concerning the service territory and owner and operator of the transmission and/or distribution entity must be submitted in a detailed narrative as part of the consistency application under proposed N.J.A.C. 7:27C-10.4.

The baseline year is the calendar year that immediately precedes the calendar year in which a consistency application is filed, except in the case of a consistency application filed on or before June 30, 2009, in which case the baseline year can alternatively be the year 2005. This is consistent with the requirement that offset projects must be commenced on or after December

20, 2005, which is the original date of signature of the RGGI Memorandum of Understanding by the original seven participating states. The ability to use 2005 as a baseline year allows for $SF_6$ emissions reductions achieved during the 2006 through 2008 period to qualify for the award of $CO_2$ offset allowances, consistent with the proposed provisions for other offset categories. The proposed new rules provide the calculation methodology, using a mass balance method, and calculation protocol for determining the entity-wide baseline emissions of $SF_6$ and the annual entity-wide $SF_6$ emissions reductions relative to baseline year emissions.

The sponsor of the offset project must submit a consistency application that includes a monitoring and verification plan, certified by an accredited independent verifier, that provides for the proper auditing and management of the $SF_6$ inventory. Monitoring and verification reports must include an entity-wide inventory of all $SF_6$-containing operating equipment and other $SF_6$-related items. The monitoring and verification plan and monitoring and verification reports must be certified by an accredited independent verifier. Required recordkeeping includes the maintenance of an entity-wide log of all $SF_6$ gas procurements and disbursals, which must be included, along with other supporting material, in the annual monitoring and verification report.

**N.J.A.C. 7:27C-10.7 $CO_2$ emissions offset project standards – sequestration of carbon due to afforestation**

The Department proposes at N.J.A.C. 7:27C-10.7 to award $CO_2$ offset allowances for offset projects that sequester carbon through the conversion of land from a non-forested condition to a forested condition and that otherwise satisfy the eligibility and qualification requirements for offset projects in this proposed new subchapter. An afforestation offset project must occur on land that has been in a non-forested condition for at least the 10 previous years, and must be managed and harvested (if commercial timber harvesting is to occur) in an environmentally sustainable fashion that promotes native forest restoration.

The proposed new rules require the submission of a detailed narrative describing the afforestation actions and including information and documentation to identify the owner and precise location of the affected land (the land within the offset project boundary) and the plant species included in the project, and to ensure that a compliant forest management plan is to be used and the necessary permanent conservation easement has been granted and recorded. This conservation easement must be a legally binding requirement providing for the permanent maintenance of the land within the offset project boundary as forest, the long-term maintenance of carbon density at a level at least as high as that achieved at the end of the last allocation period for the offset project, and the environmentally sustainable management of the land.

A carbon sequestration baseline must be calculated before the offset project is commenced, and includes the measurement, within the prior year, of the carbon content of specified carbon pools. The carbon sequestration calculations are mandatory for some carbon pools and optional for others, and must be performed individually for each carbon pool in a homogenous sub-population, which is a subdivision of the area within the project boundary. The proposed new rules provide the calculations to be used for the calculation of sequestered carbon in each carbon pool in each homogenous sub-population and for the total carbon sequestered within the offset project boundary. The proposed new rules also provide protocols for direct

measurement and sampling practices to ensure a quantified accuracy of within 10 percent of the true mean for a 95 percent confidence interval, consistent with Federal guidelines and forestry good practice.

The proposed rules require direct measurement procedures to be consistent with the guidance contained in U.S. Department of Energy, Technical Guidelines Voluntary Reporting of Greenhouse Gases (1605(b)) Program; Chapter 1, Emissions Inventories; Part 1 Appendix: Forestry; Section 3: Measurement Protocols for Forest Carbon Sequestration (March 2006) which is incorporated by reference ("1605b guidelines"). The 1605b guidelines provide procedures, methods, and guidance for quantification and measurement of forest carbon pools, including measurement and sampling protocols.

The carbon sequestered is the net increase in carbon for all specified carbon pools within the offset project boundary relative to the base year or the previous reporting period, as appropriate, and $CO_2$ offset allowances will be issued based on the net additional carbon sequestered during each reporting period. The proposed new rules provide the stock-change calculation methodology for determining the amount of sequestered carbon. This includes a re-measuring of each carbon pool measured for the baseline and the calculation of the net change in each carbon pool's carbon stock. To account for potential loss of sequestered carbon, the project sponsor can obtain insurance to guarantee replacement of the same for which $CO_2$ offset allowances are awarded, or deduct 10 percent in calculating the net carbon stock change for the offset project. Total carbon stock must be calculated at least once every five years.

The offset project sponsor must submit a consistency application that includes a monitoring and verification plan certified by the Department (as part of a consistency determination issued by the Department pursuant to the proposed N.J.A.C. 7:27C-10.4) or by an accredited independent verifier that provides for proper carbon measurement procedures, designation of sub-populations and determination of sampling plots, and proper management of any commercial timber harvest activities in an environmentally sustainable manner.

**N.J.A.C. 7:27C-10.8 $CO_2$ emissions offset project standards – reduction or avoidance of $CO_2$ emissions from natural gas, oil, or propane end-use combustion due to end-use energy efficiency**

The Department proposes at N.J.A.C. 7:27C-10.8 to award $CO_2$ offset allowances for offset projects that reduce or avoid $CO_2$ emissions from the on-site combustion of natural gas, oil, or propane at buildings due to end-use energy efficiency, and that otherwise satisfy the eligibility and qualification requirements for offset projects in this proposed new subchapter.

An energy efficiency offset project may be implemented in an existing or new commercial or residential building, so long as the project employs one or more of the seven eligible energy conservation measures set forth in the proposed new rules. These energy conservation measures address improvements to the energy efficiency of equipment that provides space heating and hot water, improvements to the energy efficiency of distribution systems for space heating or hot water, improvements to energy management systems, improvements to the thermal performance of a building (involving improvements to the thermal

performance of the building envelope or a reduction in air leakage), improvements to the passive solar performance of a building and utilization of active heating systems using renewable energy, and switching to a less carbon-intensive fuel for use in building combustion equipment.

The proposed new rules provide a number of benchmarks and performance standards that energy efficiency offset projects must meet in order to ensure that the energy conservation measures implemented as part of such offset projects meet or exceed current or future best practice. These include proper sizing and installation requirements for heating, ventilation, and air conditioning (HVAC) systems, whole-building energy performance requirements, equipment energy efficiency requirements for combustion equipment such as furnaces, boilers, and water heaters, and prescriptive energy performance requirements for other energy conservation measures.

The sizing and installation requirements of HVAC systems and whole-building energy performance requirements apply to all energy efficiency offset projects. The combustion equipment energy efficiency requirements and prescriptive energy performance requirements for other energy conservation measures apply only to energy efficiency offset projects that are commenced on or after December 20, 2005 and prior to January 1, 2009. For offset projects commenced on or after January 1, 2009, the project sponsor must demonstrate that the energy conservation measures implemented as part of the energy efficiency offset project have a market penetration rate of less than five percent. The Department determined that such a market penetration rate represents a threshold that, when exceeded, typically leads to rapid market diffusion of a technology or practice, and therefore provides a valid indicator that a technology or practice exceeds standard market practice.

The project sponsor must submit a project narrative that demonstrates that the offset project meets the appropriate energy efficiency benchmarks and performance standards outlined above and that identifies the location and specifications of the offset project, the owner and operator of the building or buildings involved, and the identity of those implementing the project, such as contractors and subcontractors. The project narrative also includes information regarding the equipment and materials to be installed as part of the offset project and building plans and technical schematics to allow the Department to evaluate the same.

The proposed new rules provide the calculations and protocols to be used for determining baseline energy usage for each application to be targeted by an energy conservation measure and energy usage for each energy conservation measure and the offset project as a whole, as well as the related $CO_2$ emissions for the same.

The project sponsor must submit a consistency application that includes a monitoring and verification plan certified by an accredited independent verifier that provides for the monitoring and verification of energy usage as required by this proposed new section. The plan must include a documented process for the calculation of baseline energy usage and annual energy savings that is consistent with internationally and nationally recognized protocols and procedures. The annual monitoring and verification reports reflecting the same must be certified by an accredited independent verifier who has conducted a site audit for larger projects (those

that save at least 1,500 MMBtu of energy per year) or has reviewed equipment specifications, equipment invoices, and other relevant project-related invoices for smaller projects (those that save less than 1,500 MMBtu of energy per year). All documentation must also be signed by a licensed, professional engineer.

The proposed new rules incorporate several documents and standards by reference that provide prescriptive and performance-based requirements for energy efficiency offset projects, as well as requirements for monitoring and verification of building energy usage that provide for the determination and reporting of baseline $CO_2$ emissions and $CO_2$ emissions reductions.

Both ANSI/ASHRAE/IESNA Standard 90.1-2007 and ANSI/ASHRAE Standard 62.1-2004: Ventilation for Acceptable Indoor Air Quality are incorporated by reference as requirements for proper sizing and installation of HVAC systems in commercial buildings as part of an offset project. Both of these documents are available from the American Society of Heating, Refrigerating and Air-Conditioner Engineers (ASHRAE) at http://www.ashrae.org and provide prescriptive and performance-based requirements for proper HVAC system sizing and installation.

The sizing specifications of Air Conditioner Contractors of America (ACCA) Manual J: Residential Load Calculation (Eight Edition) and the applicable installation specifications of the Consortium for Energy Efficiency (CEE) "Specification of Energy-Efficient Installation and Maintenance Practices for Residential HVAC Systems" are incorporated by reference as requirements for proper sizing and installation of HVAC systems in residential buildings as part of an offset project. ACCA Manual J provides calculations and guidance for proper sizing of HVAC systems relative to building thermal loads and is available from the Air Conditioner Contractors of America at http://www.acca.org. The CEE specifications provide prescriptive guidance for proper sizing and installation of residential HVAC systems and are available from the Consortium for Energy Efficiency at http://www.cee1.org.

ANSI/ASHRAE/IESNA Standard 90.1-2007 is incorporated by reference as a benchmark against which the energy performance requirements for commercial whole-building offset projects are evaluated. The 2004 International Energy Conservation Code is incorporated by reference as a benchmark against which the energy performance requirements for residential whole-building offset projects are evaluated. The IECC provides both prescriptive and performance based standards and requirements for energy-efficient residential buildings and is available from the International Code Council at http://www.iccsafe.org.

The Energy Benchmark for High Performance Buildings, Version 1.1 provides prescriptive requirements for energy conservation measures incorporated into offset projects commenced prior to January 1, 2009, and is incorporated by reference. The Energy Benchmark provides prescriptive criteria for energy-efficient buildings that define high energy performance for building envelope, lighting, HVAC, power systems, and building controls, and is available from Advanced Buildings at http://www.advancedbuildings.net/publications.htm. Where the Energy Benchmark does not provide specific performance criteria, the proposed rules incorporate by reference the Federal Energy Management Program Product Energy Efficiency

Recommendations (available through the FEMP website at http://www1.eere.energy.gov/femp/procurement/eep_requirements.html) or Energy Star criteria issued jointly by the EPA and the United States Department of Energy (available at the Energy Star website at http://www.energystar.gov/index.cfm?c=product_specs.pt_product_specs), whichever result in better energy performance for the referenced equipment, materials, or applications. The FEMP criteria represent energy-efficient equipment purchasing guidelines for federal agencies, while the Energy Star criteria are voluntary energy performance criteria that may be advertised for equipment that meets specified voluntary federal energy efficiency performance criteria.

The International Performance Measurement and Verification Protocol, Volume I: Concepts and Options for Determining Energy and Water Savings (IPMVP Volume I) is incorporated by reference and provides the required process by which energy usage must be demonstrated and documented for commercial buildings. In particular, the proposed rules incorporate by reference "Option B. Retrofit Isolation," "Option C. Whole Building," and "Option D. Calibrated Simulation," depending on the energy conservation measures and the project scenario employed by the offset project. The IPMVP provides a process overview of best practice monitoring approaches for different monitoring scenarios and provides guidance for the application of ASHRAE Guideline 14-2002, also incorporated by reference, which provides detailed specifications for energy usage monitoring.

The proposed rules incorporate by reference ASHRAE Guideline 14-2002, ANSI/ASHRAE/IESNA Standard 90.1-2007, and the RESNET National Home Energy Rating Technical Guidelines, 2006, as requirements for energy monitoring and energy simulation modeling of commercial and residential buildings, which is required to isolate the impact on energy usage of individual energy conservation measures implemented as part of an offset project. The RESNET Technical Guidelines provide requirements for proper energy monitoring and energy simulation modeling of residential buildings.

**N.J.A.C. 7:27C-10.9 $CO_2$ emissions offset project standards – avoided methane emissions from agricultural manure management operations**

The Department proposes at N.J.A.C. 7:27C-10.9 to award $CO_2$ offset allowances for offset projects that capture and destroy methane from animal manure and organic food waste, and that otherwise meet the eligibility and qualification requirements elsewhere in this proposed new subchapter. Agricultural manure management offset projects involve the collection of manure in an anaerobic digester and the combustion of the methane collected by the digester. The combustion of collected methane coverts the methane, a greenhouse gas with a global warming potential of 23 times that of $CO_2$, to $CO_2$, a greenhouse gas with a global warming potential of one, a process referred to as "methane destruction." The resulting conversion of the emitted gas from a gas with a higher global warming potential (formerly methane) to a gas with a significantly lower global warming potential ($CO_2$) results in a net reduction in greenhouse gas emissions. Only manure-based anaerobic digester systems may be used, such that more than half of the annual mass input into the digester must be livestock manure, with any balance comprised of organic food waste that would otherwise have been anaerobically stored.

Given the very low current market penetration of anaerobic digester projects in the Northeast and demonstrated market barriers to the implementation of such projects, such as capital investment constraints for small farmers, the Department determined that the ability for agricultural manure management offset projects to capture other incentives in certain instances and still qualify for the award of $CO_2$ offset allowances is warranted and would not compromise the reasonable assurance of the additionality of such offset projects. Accordingly, the proposed new rules exempt agricultural manure management offset projects from the provisions of N.J.A.C. 7:27C-10.3(e)2 and 3, provided the offset project is located in a state that has a market penetration for anaerobic digester projects of five percent or less and the project is located on a farm with 4,000 or fewer dairy cows or equivalent animal units, or if a regional-type digester, the digester is designed to receive manure in an amount less than the average manure production of such a farm. The Department determined that a five percent market penetration rate represents a threshold that when exceeded typically leads to rapid market diffusion of a technology or practice, and therefore provides a valid indicator that a technology or practice exceeds standard market practice. Proposed N.J.A.C. 7:27C-10.3(e)2 and 3 address certain limitations for offset projects related to electric generation components of projects and the receipt of other incentives in addition to $CO_2$ offset allowances. (See description of proposed N.J.A.C. 7:27C-10.3.)

The offset project sponsor must provide a project narrative to document that the offset project meets the requirements for an anaerobic digester outlined above, identify the owner and operator of both the offset project and the facility where the project will be implemented, and provide other information regarding the facility, the equipment to be installed, and, if the anaerobic digester influent will be received at a different facility, identifying information concerning that facility. As part of the consistency application, the project sponsor must also submit a monitoring and verification plan certified by an accredited independent verifier that includes a quality assurance and quality control program appropriate to the chosen input monitoring parameter, and additional provisions regarding the use of measuring and monitoring equipment, and retention of equipment maintenance records.

The Department proposes calculations and protocols to be employed in determining both the emissions baseline and emissions reductions attributable to the offset project. Emissions reductions for the offset project represent the methane that would have been generated and released through the uncontrolled anaerobic storage of manure and food waste under a baseline scenario, such as a manure lagoon, rather than based on the volume of methane destroyed by the combustion of methane collected by the anaerobic digester. This is to ensure that the $CO_2$ offset allowances awarded to the offset project do not exceed the actual methane emissions that would have occurred in the absence of the offset project and therefore are avoided by the offset project. This addresses the fact that anaerobic digesters are designed to maximize methane generation and the volume of methane generated by an anaerobic digester could potentially exceed the methane generated by the uncontrolled storage of manure and food waste. The proposed rules also require the systematic metering of biogas volumetric flow rate and methane concentration, to be reflected in annual monitoring and verification reports as a monthly value. In the calculations to determine the estimated amount of volatile solids degraded each month, the concentration of total solids in manure or organic food waste is determined by using a United

States Geological Survey method, USGS I-3750-85. This method is used to determine the total-solids concentration of any natural or treated water or industrial waste. Total residue represents the sum of both dissolved and suspended (including colloidal) material in a sample, obtained by evaporating to dryness a volume of well-mixed sample. The residue is dried at 105 degrees Celsius for two hours, cooled in a desiccator, and immediately weighed. In the calculations to determine the estimated amount of volatile solids degraded each month, the concentration of volatile solids in total solids is determined by using a USEPA testing method, EPA Test Method Number 160.4, Residue, Volatile (Gravimetric, Ignition at 550°C), which is incorporated by reference. The residue obtained from the determination of total, filterable or non-filterable residue is ignited at 550 degrees Celsius in a muffle furnace. The loss of weight on ignition is reported as mg/L volatile residue. In the calculations to determine the estimated amount of volatile solids degraded each month, the methane generation constant for other types of manure is obtained from the USEPA Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2005, Annex 3.10, Methodology for Estimating $CH_4$ and $N_2O$ Emissions from Manure Management, Table A-160 (2006 Manure Distribution Among Waste Management Systems by Operation (Percent)), which is incorporated by reference. This table provides the maximum methane generation potential ($B_o$) by animal type in cubic meters of methane per kilogram of volatile solids added. Additional requirements for monitoring and verification relate to the sampling of volatile solids if the project is a regional-type digester or the project utilizes organic food waste and the quarterly verification of biogas methane composition using USEPA Test Method 3C, Determination of Carbon Dioxide, Nitrogen, and Oxygen from Stationary Sources, incorporated by reference, as amended and supplemented. This method includes an analysis of methane in samples from municipal solid waste landfills and other sources. A portion of the sample is injected into a gas chromatograph and the concentration of the methane is determined by using a thermal conductivity detector and integrator.

In ordering the preferred sampling methods for the input monitoring requirements listed in Table 5 for influent flow (mass) into the digester, the Department references the American Society of Agricultural and Biological Engineers standard, ASAE D384.2, Manure Production and Characteristics, March 2005, which is incorporated by reference. This standard provides three types of information for estimating characteristics of livestock and poultry manure: typical characteristics for manure "as-excreted" by livestock and poultry based on typical diets and animal performance levels in 2002; equations for estimating manure excretion characteristics based on animal performance and dietary feed and nutrient intake specific to an individual situation; and typical characteristics for manure "as-removed" from manure storage or animal housing.

**N.J.A.C. 7:27C-10.10 Accreditation of independent verifiers**

The Department proposes at N.J.A.C. 7:27C-10.10 to establish a process for the accreditation of independent verifiers, whose certification is required on a number of documents that project sponsors must submit under this proposed new subchapter. The accreditation process begins with the submission of an application by the independent verifier that includes identifying information, documentation of the knowledge, experience, and training necessary to

properly perform the required functions, and other information regarding professional liability insurance and management protocols to address potential conflicts of interest. Once a complete application for accreditation has been submitted, the Department has 45 days to either approve or deny the same. Accreditation is for a period of three years.

Where the accreditation requirements in another participating state are substantially equivalent to the Department's, the Department will accept the accreditation of an independent verifier by that state.

In order to address conflicts of interest related to an independent verifier, both actual and potential, the proposed new rules require disclosure of information by both prospective and accredited independent verifiers that would allow the Department to identify any such conflict of interest or potential therefor with respect to an independent verifier and an offset project, offset project developer, or offset project sponsor, and obligate an accredited independent verifier to continue to disclose any such facts or circumstances on a continuing basis. Determination of a conflict of interest on the part of an accredited independent verifier related to an offset project, offset project developer, or offset project sponsor is grounds for the rejection of a verification report and certification submitted as part of a consistency application or of a monitoring and verification report.

Proposed N.J.A.C. 7-27C-10.10 also provides the grounds for revocation of an independent verifier's accreditation, which are those that throw into question the ability of the accredited verifier to properly perform verification responsibilities.

**N.J.A.C. 7:27C-10.11 Award of $CO_2$ offset allowances**

Proposed N.J.A.C. 7:27C-10.11 establishes the procedures whereby the Department will award $CO_2$ offset allowances to the sponsors of offset projects and $CO_2$ emissions credit retirements. In both cases, each awarded $CO_2$ offset allowance represents the reduction, avoidance, or sequestration of a ton of $CO_2$ or $CO_2$ equivalent emissions. For offset projects, the Department will award $CO_2$ offset allowances only after it has issued a consistency determination and approved the relevant monitoring and verification report. For $CO_2$ emissions credit retirements, the Department will award $CO_2$ offset allowances only after it has issued a consistency determination (there is no monitoring and verification report in such cases).

The proposed new rule provides the timing for the submission of a monitoring and verification report, depending on whether the offset project was commenced before January 1, 2009, or on or after January 1, 2009. The monitoring and verification report must provide information identifying the project sponsor, the determination of the $CO_2$ emissions reduction or sequestration and supporting documentation thereof, and certifications by the project sponsor and an accredited independent verifier designed to ensure compliance with all applicable requirements for offset projects under N.J.A.C. 7:27C-10.3 through 10.9. Once the Department has received a monitoring and verification report for which it has issued a consistency determination, it will determine the completeness of the report. If the monitoring and verification report is complete, the Department will approve or deny the report within 45 days thereafter.

## Social Impact

Through the reduction of $CO_2$ emissions and a related reduction in atmospheric concentrations of greenhouse gases that are driving climate change, the Department anticipates that the proposed amendments and new rules will have a positive social impact in New Jersey by mitigating the adverse social impacts that are projected to occur as a result of climate change. Climate change is projected to have a number of adverse impacts on human health and the built environment that will result in adverse social impacts. As discussed in the Environmental Impact below, these include an increased incidence of heat stress for vulnerable populations in urban areas, and an increase in disease vectors. A projected increase in intense rainfall events will result in increased localized flooding. Sea level rise and increased storm surges will threaten coastal buildings and infrastructure, and could impact the insurability of structures within expanded flood zones. An increase in temperature is also expected to result in an increase in ground level ozone, absent additional measures to reduce emissions of ozone precursors, with attendant adverse health impacts for vulnerable populations such as children and the elderly.

## Economic Impact

The Department projects, based on extensive modeling and quantitative analysis of the regional $CO_2$ Budget Trading Program (Program), that implementation of the $CO_2$ Budget Trading Program in New Jersey will have a very small economic impact on the State. The program is projected to have a small direct net economic impact on electricity ratepayers, and under some evaluation criteria is projected to have a positive net economic impact on electricity ratepayers. This is expected to result primarily from the investment of revenue from the auction and sale of $CO_2$ allowances to support incentives that result in increased deployment of end-use energy efficiency technologies and measures. The economic benefits to ratepayers from the deployment of these energy efficiency technologies and measures are projected to mostly offset, and under some evaluation metrics exceed, the modest increase in retail electricity prices that is expected to result from implementation of the program. Macroeconomic modeling analysis also indicates that implementation of the program will have a very small impact on the broader New Jersey or regional economy.

In addition, the Department anticipates that implementation of the program, by increasing the economic value of the deployment of technologies and measures that result in avoided carbon emissions and direct carbon emissions reductions, will spur the market development of clean energy technologies that increase end-use energy efficiency and fuel use efficiency, utilize non-carbon resources such as renewable energy, and reduce or eliminate carbon emissions at the emissions source. Furthermore, the Department anticipates that the deployment of these new technologies, especially those that improve end-use energy efficiency, are expected to create new jobs in the State. The near-term development of such clean energy markets will place the State at a competitive advantage relative to other states and regions at such time that a national program addressing greenhouse gas emissions is implemented.

Projected Economic Impact on Affected Electric Generators and Electricity Ratepayers

The New York State Energy Research and Development Authority (NYSERDA), in consultation with the Department and staff from the other original eight participating states (Staff

Working Group), engaged a consulting firm, ICF International, to conduct detailed electricity sector modeling using the Integrated Planning Model (IPM) computer simulation model to project the economic impacts of the program under a variety of scenarios. The IPM model is a nationally recognized modeling tool that is used by the USEPA, state energy and environmental agencies, and private sector firms, such as electric utilities and electric generation companies. The results of this analysis, which are outlined below, are based on a scenario considered by the Department to represent future outcomes that represent the Department's best estimate of projected futures both without and with implementation of the program. (See IPM "reference" and "package" cases dated October 11, 2006, available at http://www.rggi.org/documents.htm.)

Based on this electricity sector modeling analysis, the Department calculated the projected impact of the program on retail electricity prices and average annual household electricity expenditures, as well as the projected net impact to ratepayers after investment of revenue from the sale and auction of $CO_2$ allowances and the use of this revenue to improve end-use energy efficiency.

The electricity sector modeling analysis and review process was coordinated by NYSERDA staff, in consultation with staff from the Department and the RGGI Staff Working Group, which consists of energy and environmental agency representatives from all of the states participating in the RGGI process. In addition, staff were consulted from each regional Independent System Operator (ISO). (The ISOs are Federally regulated regional organizations that coordinate, control, and monitor the operation of the electrical power system in a particular region. The ISOs in the RGGI region include PJM, which controls the movement of wholesale electricity in 13 states, including New Jersey, in the Mid-Atlantic and Midwest U.S., New York ISO, and New England ISO.)

To estimate the potential impacts of the program, the IPM model was used to compare a future scenario that includes implementation of the program (Program Case) to a business-as-usual (BAU) scenario (BAU Case) that does not include implementation of the program. Under either scenario, the model projects what the future electricity system would look like given the specifications of the scenario and modeling input assumptions. The projected impacts of the implementation of the program were determined by comparing the modeled output of the Program Case to the modeled output of the BAU Case. The modeling assumptions and input data were developed through an extensive stakeholder process with representatives from the electricity generation sector, business and industry, environmental advocates, and consumer interest groups. Modeling results were presented to stakeholders for review and comment throughout the process of developing the program. The detailed modeling assumptions and modeling output for these various scenarios are available at http://www.rggi.org/documents.htm.

Assumptions and sources of input data are specified in detail in an assumption document available at http://www.rggi.org/documents.htm (see "Assumption Development Document: Regional Greenhouse Gas Initiative Analysis," ICF International, March 22, 2006). Key assumptions and data include regional electricity demand, load shapes, transmission system capacities and limits, generation unit level operation and maintenance costs and performance characteristics, fuel prices, new capacity and emission control technology costs and performance

characteristics, zonal reliability requirements, reserve margins, state renewable portfolio standard (RPS) requirements across the region, national and state environmental regulations, and financial market assumptions. All estimates presented here are represented in 2003 dollars unless otherwise noted, in order to allow for comparison with the modeling output available at http://www.rggi.org/documents.htm, which are represented in 2003 dollars. Regional electricity demand growth projections, transmission capabilities and limits, and near-term expected infrastructure additions/retirements were provided by the regional ISOs. Long range Henry Hub natural gas prices were based on forecast data from Energy and Environmental Analysis, Inc.

For the modeling, new coal-fired plants were precluded as an economic choice to meet projected capacity needs within the RGGI region, with the exception of a 600 MW integrated gasification combined cycle (IGCC) coal plant with 50 percent carbon capture capability that was assumed to be operational in upstate New York by 2018 in response to New York's Advanced Clean Coal Power Plant Initiative. New nuclear units were also precluded outside the RGGI region. A national three-pollutant policy ($SO_2$, $NO_X$ and mercury) that approximates the Clean Air Interstate Rule (CAIR) and the Clean Air Mercury Rule (CAMR) was assumed, as well as the achievement of RPSs in individual states in the RGGI region.

Under the BAU Case, generation from new natural gas-fired combined cycle plants is projected to supply most of the projected regional growth in electricity demand. Electric generation from natural gas-fired combined cycle plants in New Jersey is projected to nearly triple from 9,472 Gigawatt hours (GWh) in 2006 to 26,613 GWh in 2021. Generation from new renewable resources (primarily wind units) is projected to increase significantly in response to RPS requirements. While nuclear generation is projected to increase by about 9.7 percent between 2006 and 2021, due to capacity up-rates at existing plants, generation from coal-fired plants is projected to decrease by 13.4 percent between 2006 and 2021. Finally, generation from existing oil/gas steam units is projected to decrease over time, as a result of displacement by lower-cost electricity from new natural gas-fired combined cycle facilities.

Under the BAU Case, net imports of electricity into New Jersey and Delaware are projected to decrease from approximately 38,000 GWh in 2006 to approximately 34,000 GWh in 2021. Underlying the projected decrease in net imports to New Jersey is the increasing generation from natural gas-fired combined cycle plants in New Jersey.

Under the BAU Case, $CO_2$ emissions in New Jersey from electric generation facilities are projected to increase from approximately 18.1 million short tons in 2006 to about 23.3 million short tons in 2021. This increase is due primarily to the addition of new natural gas-fired power plants to meet projected electricity load growth. Projected regional $CO_2$ emissions in the BAU Case in 2006 are lower than actual $CO_2$ emissions reported to the USEPA, the Department, and other participating states during the period 2000 through 2004 (average annual $CO_2$ emissions from program-affected facilities from 2000 through 2004 were 180.6 million short tons). There are several factors that contribute to this discrepancy. The first is the fact that the IPM model excludes on-site emissions from cogeneration facilities for the portion of electricity that is assumed to be used to meet on-site industrial electricity load. Actual emissions reports to USEPA and the Department are inclusive of on-site emissions, while the modeling analysis

reflects only the emissions associated with the electricity assumed to be provided to the regional electric grid. A second contributing factor is the difference between $CO_2$ emissions recorded by continuous emissions monitoring systems and reported to USEPA compared to $CO_2$ emissions estimated from fuel use and the application of emissions factors (Berry et al., "CEMS Analyzer Bias and Linearity Effects Study," RMB Consulting and Research, Inc., 1998). As a result, it is expected that emissions reported to USEPA may be on the order of 3.0 to 3.5 percent higher than emissions estimated from fuel use. Lastly, significant changes to the electricity sector also contribute to the difference between projected 2006 emissions in the BAU Case and 2000 to 2004 actual emissions. These include the addition of new natural gas-fired combined cycle capacity and new renewable resources as well as the updating of existing nuclear units.

Several assumptions were made to project the impacts of the program in the Program Case. The program was applied to fossil fuel-fired electricity generators 25 megawatts (MW) and larger in nine northeastern and mid-Atlantic states, including New Jersey, Connecticut, Delaware, Maine, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont. For modeling purposes, the initial $CO_2$ cap was assumed to be "current" emissions levels as projected for 2006 under the BAU Case. The initial cap level, stabilizing emissions at current modeled levels, was implemented in 2009 through 2014, and then, from 2015 until 2018, the cap was reduced linearly so that emission levels in 2018 were capped at 10 percent below the initial cap level. The Program Case allows a limited number of emissions offsets to be purchased by affected generators and used for compliance by applying assumptions functionally equivalent with the limits established for the program.

The Program Case assumes that significant incremental end-use energy efficiency savings are achieved through 2021. In the Program Case, the IPM model was allowed to compare the relative economics of adding new electric generating capacity and investments in end-use energy efficiency, using supply curves developed by NYSERDA and the Staff Working Group. The inclusion of this modeling capability resulted in projected regional electricity load in each year being lower in the Program Case than in the BAU Case. The IPM modeling projected that regional electricity demand in the Program Case would be 12,415 GWh lower in 2015 (2.7 percent) and 20,692 GWh lower (4.3 percent) in 2021 relative to the BAU Case. Load in New Jersey was projected to be 2,167 GWh lower in 2015 (2.3 percent) and 3,612 GWh lower (3.6 percent) in 2021, relative to the BAU Case

These incremental end-use energy efficiency savings were modeled for multiple reasons. There is uncertainty regarding the extent to which current and future energy savings due to ratepayer-funded energy efficiency programs are incorporated into and fully captured by the ISO load forecasts used in the BAU Case. For instance, PJM does not explicitly include load reductions due to state energy efficiency programs when developing load forecasts, instead performing a regression analysis of historical load and U.S. Gross Domestic Product. This approach may fail to capture future load reductions that may be achieved due to current state energy efficiency programs, as well as additional future savings due to an expansion in funding for such programs and improvements in program performance. A number of participating states have also enacted or are moving to enact improved building codes and energy efficiency standards for appliances that will reduce future load growth. In addition, participating states

representing a majority of the regional program $CO_2$ emissions budget, including New Jersey, have proposed auctioning or selling most of their allowances and dedicating the majority of realized revenue to fund additional support for end-use energy efficiency programs. While projecting the achievement of significant incremental end-use energy efficiency savings, the Program Case does not directly model the impact of such an allowance auction and sales approach because the modeling was conducted prior to the establishment of specific allowance allocation approaches by individual participating states.

The IPM model was allowed to select end-use energy efficiency options on an economic basis as an alternate means of meeting regional energy and generation capacity requirements. A limit was placed on the amount of end-use energy efficiency "resource" (MW and MWh) that the model could select, at a level equivalent to what was assumed could be achieved based on a specified level of programmatic energy efficiency spending. The limit was developed based on a funding level of $513 million per year (approximately equal to the level of state spending on energy efficiency in the nine-state region in 2004). The IPM model projected energy savings achieved through investment in specific categories of end-use energy efficiency technologies and measures and allocated the resulting energy savings to each customer class (42 percent to residential, 46 percent to commercial, and 12 percent to industrial).

Projected incremental end-use energy efficiency achieved in the Program Case is viewed by the Department as indirectly representing a portfolio of policies and mechanisms, including:

- Auction or sale of allowances by participating states, with the majority of the revenue dedicated to end-use energy efficiency, as has been proposed by a number of participating states, including Jew Jersey. For example, sale or auction of 99 percent of New Jersey allowances, assuming a $3.00 (2003 dollars) per ton allowance price, would result in revenue of approximately $67.3 million (2007 dollars) annually;

- Enactment of appliance and equipment energy efficiency standards, such as enacted in recent years by New Jersey, Connecticut, Massachusetts, New York, and Rhode Island;

- Upgrade of building energy codes, such as enacted in recent years by New Jersey, Delaware, Maine, New York, and Vermont

- Increases in existing state energy efficiency funding, such as recently enacted by the New Jersey Board of Public Utilities, and improvement in program performance on a dollar per megawatt-hour-saved basis ($/MWh); and

- Appliance and equipment energy efficiency standards mandated through the Federal Energy Policy Act of 2005 (P.L. 109-58) and the Federal Energy Independence and Security Act of 2007 (P.L. 110-140).

Several types of results for the Program Case and the BAU Case were compared, including electricity generation mix, net electricity imports, changes in electricity generation capacity, $CO_2$ emissions, $CO_2$ allowance prices, and wholesale electricity prices. Retail

electricity price impacts were estimated by the Department through an analysis that translated wholesale electricity prices projected by the IPM model into estimated retail electricity prices, based on the relationship between recent historical wholesale energy and capacity prices in PJM and retail electricity prices in New Jersey.

The generation mix in New Jersey under the Program Case reflects a reduction in electricity demand growth achieved through current end-use energy efficiency program investment and anticipated incremental end-use energy efficiency program investment, and the change in power plant build mix. Electricity generation from natural gas-fired combined cycle plants in 2021 is projected to be 10,195 GWh, or 38 percent, lower in the Program Case than in the BAU Case. Net imports into New Jersey in 2021 are projected to be 16,072 GWh, or 41.7 percent, higher in the Program Case than in the BAU Case. However, the increase in projected net imports into New Jersey in 2021 in the Program Case are somewhat less (12,214 GWh, or 31.9 percent) when compared to BAU Case imports in 2006. The total electricity load requirement in New Jersey (generation plus net imports) in 2021 is lower in the Program Case by about 3,612 GWh (3.6 percent), due to the projected end-use energy efficiency savings achieved in the Program Case.

Relative to the BAU Case, total electricity generation capacity additions in New Jersey in the Program Case are 848 megawatts lower (19.8 percent) in 2015 and 1,485 megawatts lower (22.7 percent) in 2021. The avoided capacity additions in the Program Case are comprised almost entirely of natural gas-fired combined-cycle plants.

$CO_2$ emissions from New Jersey electric generators are projected to be 4.5 million short tons lower (19.4 percent) in 2021 for the Program Case as compared to the BAU Case, without including emissions reductions projected to be achieved through emissions offsets. When factoring in emissions reductions achieved through offsets, $CO_2$ emissions from New Jersey electric generators are projected to be 5.1 million short tons lower (21.7 percent) in 2021 for the Program Case as compared to the BAU Case. Regionally, $CO_2$ emissions from the electricity generation sector are projected to decline 13.1 percent for the Program Case as compared to the BAU Case, without factoring in emissions reductions achieved through offsets. When factoring in emissions reductions projected to be achieved through offsets, regional $CO_2$ emissions from the electricity generation sector are projected to decline 15.6 percent as compared to the BAU Case.

Under the Program Case, New Jersey $CO_2$ emissions from the electricity generation sector are projected to increase modestly (4.2 percent) by 2021 relative to projected 2006 emissions, without factoring in emissions reductions achieved through offsets. When factoring in emissions reductions projected to be achieved through offsets, New Jersey $CO_2$ emissions from the electricity generation sector under the Program Case are projected to increase slightly (1.1 percent) by 2021 relative to projected 2006 emissions. Under the Program Case, regional $CO_2$ emissions from the electricity sector are projected to decline slightly (1.9 percent) by 2021 relative to projected 2006 emissions, without factoring in emissions reductions achieved through offsets. When factoring emissions reductions projected to be achieved through offsets, regional

$CO_2$ emissions from the electricity generation sector are projected to decline slightly (4.8 percent) by 2021 relative to projected 2006 emissions.

These $CO_2$ emissions reductions are less than would be expected based on the cap level itself, which decreases by 10 percent during the period 2015 through 2018. However, this result is expected, in part, because program-affected emissions sources are allowed to bank allowances in the early years of the program for use in later years when the cap becomes more stringent. These banked allowances represent over compliance during earlier years of the program. In addition, a portion of the emissions reductions needed to achieve compliance with the cap is projected to be achieved through the use of emissions offsets from emissions reduction projects implemented in sectors outside the capped electric generation sector. Through 2021, about 73 percent of the $CO_2$ emissions reductions resulting from the regional program are projected to be achieved by on-system emissions reductions occurring within the capped electric generation sector, while about 27 percent of emissions reductions are projected to be achieved outside the capped sector through emissions offsets.

$CO_2$ allowance prices, which represent the marginal cost of compliance for program-affected facilities, are projected to increase from approximately $2.01 per ton in 2009 to $2.99 per ton in 2015, and to $4.45 per ton in 2021. The availability of emissions offsets to meet a limited portion of the emissions reduction requirement contributes significantly to maintaining $CO_2$ allowance prices below the $7.00 per ton offset expansion threshold established under the program. Under the Program Case, no New Jersey electric generation facilities were projected to be retired due to the compliance costs imposed by the program. As a result, the Department concludes that the program will not adversely affect electric system reliability.

Under the Program Case, New Jersey wholesale electricity prices (including both energy and capacity prices) are projected to be $0.64 per MWh higher in 2015 and $0.75 per MWh higher in 2021, than in the BAU Case. The program is projected to increase wholesale electricity prices in New Jersey by about 1.2 percent in 2015 and 1.4 percent in 2021. For a typical New Jersey residential household using 8,280 kWh of electricity per year, the projected increase in wholesale electricity prices in 2015 (1.2 percent) translates into an annual retail bill increase of about 0.5 percent or $5.96 (2007 dollars). In 2021, the projected increase in wholesale electricity prices in New Jersey (1.4 percent) translates into an annual household retail bill increase of about 0.6 percent or $7.00 (2007 dollars). For commercial customers, the projected retail price increase due to the RGGI program is about 0.6 percent in 2015 and 0.7 percent in 2021. For industrial customers, the projected retail price increase due to the RGGI program is about 0.7 percent in 2015 and 0.8 percent in 2021.

To project impacts under certain contingencies, the Department also evaluated retail price impacts assuming allowance prices that are significantly higher than those projected by the Department. Even under these higher allowance price assumptions, the retail price impacts of the program were projected to be modest.

Under a “High Emissions” scenario, which projects higher allowance prices of $5.22 in 2015 and $6.50 in 2021, New Jersey wholesale electricity prices (including both energy and

capacity prices) are projected to be $0.58 per MWh higher in 2015 and $4.50 per MWh higher in 2021 under the Program Case, than in the BAU Case. (See September 14, 2005 IPM run, "RGGI High Emissions Scenario with Package Policy Summary.") The program is projected to increase wholesale electricity prices in New Jersey by about 1.2 percent in 2015 and 9.8 percent in 2021. For a typical New Jersey residential household using 8,280 kWh of electricity per year, the projected increase in wholesale electricity prices in 2015 (1.2 percent) translates into an annual retail bill increase of about 0.5 percent or $5.41 (2007 dollars). In 2021, the projected increase in wholesale electricity prices in New Jersey (9.8 percent) translates into an annual household retail bill increase of about 4.1 percent or $41.99 (2007 dollars). For commercial customers, the projected retail price increase due to the program is about 0.6 percent in 2015 and 4.7 percent in 2021. For industrial customers, the projected retail price increase due to the program is about 0.7 percent in 2015 and 5.4 percent in 2021.

Compliance Cost Recovery by Affected Electric Generators

A substantial portion of program compliance costs for affected facilities are expected to be recovered by these facilities through the above-mentioned increase in wholesale electricity prices. The program is being developed in a restructured region with competitive wholesale electricity markets. In a competitive wholesale generation market, electric generators will pass on the value of allowances as a cost of generation, whether these allowances are allocated at no cost or generators are required to purchase allowances.

In a competitive wholesale electricity market, the independent system operator (manager of both the power grid and power market) solicits bids for generation to meet expected electricity load on a daily and hourly basis. Bids are accepted based on price and amount of available generation, until the expected electricity load is met. The accepted bid price of the most expensive electric generator that dispatches to meet system load is considered the marginal unit and sets the market-clearing price. All electric generators receive this market-clearing price, even if their generation costs are significantly lower than the marginal unit.

Generally, an electric generator's bid price in the wholesale electricity market is determined by the short-run variable costs incurred by the generator to supply the electricity generation offered into the market. The amount of an electric generator's bid will include the incremental cost of fuel, operation and maintenance, and emissions allowances. An electric generator will include in its bid the market value of the emissions allowances that would be "expended" when generating electricity, even if the generator has received the allowances at no cost. This is because the dispatch of the electric generation unit would require future submission of allowances to the applicable regulatory authority, and therefore dispatch of the unit imposes an "opportunity cost" since allowances that are expended cannot be sold in the market and potential revenue is lost. This outcome is consistent with how a competitive wholesale electricity market is intended to work.

Because the market value of allowances is included as an operating cost in an electric generator's bid into the wholesale market, the realized wholesale price of electricity is the same whether the allowances are distributed at no cost to electric generators or electric generators are required to purchase the allowances.

The cost of complying with a carbon constraint will increase the cost of wholesale power, since fossil fuel-fired units are typically the marginal unit. This increase in wholesale power prices will increase revenue for all electric generators, even those that are not subject to the program. Many electric generators subject to the program may be able to fully recover their compliance costs through this increase in revenue. To the extent that the increase in wholesale market-clearing price exceeds a unit's increase in generation costs due to $CO_2$ compliance, a unit will see an increase in net revenues.

All electric generators not subject to the program will realize an increase in net revenues due to an increase in wholesale electricity prices. Because program-affected electric generators will recover a portion or all of their compliance costs, and non-regulated electric generators will realize an increase in net revenues, the electric generation sector as a whole may be able to recover all of its aggregate $CO_2$ compliance costs, even if all allowances must be purchased. The amount of compliance costs that can be recovered by different types of affected electric generators (coal-, oil-, and natural gas-fired) depends on the relative carbon emissions rate of the marginal unit in relation to other affected fossil fuel-fired units that also dispatch. For example, based on average $CO_2$ emissions rates for electric generation facilities in the U.S. by fuel type, a $3.00 per ton $CO_2$ allowance price translates to compliance costs of approximately $3.00 per MWh for coal-fired plants, $2.20 per MWh for oil-fired plants, and $1.50 per MWh for natural gas-fired plants (emissions data from USEPA eGRID, 2000 data). A new natural gas-fired combined cycle plant, with an emissions rate of approximately 800 pounds $CO_2$ per MWh, would incur compliance costs of $1.20 per MWh assuming a $3.00 per ton allowance price. If a natural gas-fired combined cycle plant were on the margin, a coal-fired plant would be able to recover less than half of its $CO_2$ compliance costs, while the natural gas-fired plant would recover all of its $CO_2$ compliance costs. Conversely, if a coal- or oil-fired generation plant is on the margin, a natural gas-fired plant would realize an increase in net revenue, since the $CO_2$ compliance cost added to the wholesale electricity price ($/MWh) would exceed the unit's ($/MWh) $CO_2$ compliance cost.

The impact on annual cost recovery depends in large part on which types of plants/units are expected to be on the margin for a given period over the course of a year. For example, in PJM during 2000 through 2005, the following types of electric generating units were on the margin for the following periods of time: coal-fired – 49 to 62 percent; natural gas-fired – 18 to 31 percent; oil-fired – 11 to 32 percent (PJM, 2005 State of the Market Report, March 2006.) The ability to recover compliance costs should also be considered on a company portfolio basis, especially for companies that own a portfolio of both fossil fuel-fired and non-emitting units. A loss in net revenue at one plant may be counter balanced by an increase in net revenue at another plant, and may provide an increase in net revenue for the company as a whole.

A number of market variables determine which generator is the marginal unit, and therefore impact the level of $CO_2$ allowance market value "pass through" to wholesale electricity prices. However, the basic dynamics elaborated here have been borne out in the initial experience of the European Union Emissions Trading Scheme (EU ETS) for carbon. Recent research, based on both empirical observation and power sector modeling, indicates that pass-

through rates of carbon allowance price to wholesale electricity price in the European electricity market range from 60 to 100 percent of $CO_2$ allowance opportunity costs. (See Sijm et al., "$CO_2$ cost pass through and windfall profits in the power sector," Climate Policy 6 (2006): 49-72; Sijm et al., $CO_2$ Price Dynamics: The Implications of EU Emissions Trading for the Price of Electricity, Energy Research Centre of the Netherlands, September 2005; Martinez, K. and K. Neuhoff, "Allocation of carbon emission certificates in the power sector: how generators profit from grandfathered rights," Climate Policy 5 (2005): 61-78. Variations in estimates depend on the regional electricity market evaluated and temporal distinctions.)

Modeling of the European electricity sector also indicates that even if electric generators are required to purchase all allowances, sectoral profits may increase (Williams, E., Greenhouse Gas Allocation: Cost Pass-Through, Sector Differentiation and Economic Implications, Nicholas Institute for Environmental Policy Solutions, Duke University, 2008). This is because units with low carbon intensities also benefit from the increase in wholesale prices from the marginal fossil-fired unit. The failure to auction allowances in the European system has recently generated significant controversy, based on indications that the profitability of the European electric generating sector has increased significantly under the EU ETS. (See, for example, UK House of Commons, Environmental Audit Committee, The International Challenge of Climate Change: UK Leadership in the G8 & EU, March 27, 2005, pp. Ev 155-156; Ev 159-161.)

Net Impacts on Electricity Ratepayers

Based on the electricity sector modeling analysis discussed above, the Department calculated the projected impact of the program on retail electricity prices and average annual household electricity expenditures, as outlined above. The Department has also projected net economic impacts to ratepayers after investment of revenue from the sale and auction of $CO_2$ allowances to provide incentives for the deployment of technologies and measures to improve end-use energy efficiency.

The Department recognizes that electricity ratepayers will bear a significant portion of the compliance costs of the program through an increase in wholesale electricity prices. As a result of the dynamics of $CO_2$ allowance market value pass-through in wholesale electricity markets, the use of an allowance allocation approach by the Department that allocated allowances to affected facilities at no cost would result in a significant transfer of public assets to affected facilities without realizing any decrease in electricity price impacts from the program. As a result, the Department is proposing to sell or auction up to 99 percent of the allowances in the State's emissions budget to ensure that the market value of allowances is used to mitigate impacts on electricity ratepayers and promote the emissions reduction goals of the program. (The amount of allowances sold or auctioned may be less than 99 percent of the annual New Jersey $CO_2$ emissions budget due to the ability of cogeneration facilities subject to the program to claim a direct allowance allocation based on useful steam produced, or meeting an annual thermal efficiency threshold of 70 percent; the Department anticipates that claims under these allocation provisions are likely to total five percent or less of the annual emissions budget.)

The Department proposes to utilize this allowance value, in coordination with the Economic Development Authority and the Board of Public Utilities, to support incentives and

financing for end-use energy efficiency and clean energy technologies. N.J.S.A. 26:2C-51 outlines the purposes for which allowance revenue may be used; N.J.S.A. 26:2C-52 requires the Department, in consultation with the Economic Development Authority and the Board of Public Utilities to establish guidelines and a priority ranking system to be used to assist in annually allocating funds to eligible projects and programs. The overview outlined here is prospective and illustrative, pending rulemaking by the Department pursuant to N.J.S.A. 26:2C-52, in order to demonstrate the economic benefits that will accrue through an allowance allocation approach that utilizes allowance value to reduce electricity demand.

Such an allocation approach is expected to reduce the overall compliance costs of the program and its impact on electricity ratepayers, as well as mitigating the potential for emissions leakage. (For a discussion of the concept of emissions leakage, see Potential Impact of Emissions Leakage below.) The Department believes that maximizing the use of allowance value to support electric end-use energy efficiency is critical to the success of the program. No end-of-stack pollution controls are currently fully commercialized to limit $CO_2$ emissions. (There are emerging end-of-stack options in the early commercialization and deployment phase, as well as a number of existing $CO_2$ compliance options, including heat rate improvements, fuel switching, co-firing of biofuels, environmental dispatch of a company portfolio of units that considers the $CO_2$ emissions rate of individual units, and the use of emissions offsets.) As a result, a $CO_2$ cap-and-trade program will benefit from having a strong end-use component integrated into its design. An integrated allocation approach allows the program to adopt both a supply-side (electricity generation) and demand-side (electricity use) focus, facilitating the achievement of sectoral $CO_2$ emissions reductions at least cost.

The Department has analyzed the impact of investing allowance revenue in offsetting the direct economic impacts of the implementation of the program, which will result from a modest projected increase in retail electricity prices. Such an approach is anticipated to mostly offset the direct economic impacts of the program, resulting in a small net impact on ratepayers as a result of the implementation of the program, and a positive net ratepayer impacts under certain evaluation metrics.

The assumptions used in this analysis and the results are outlined below. The Department compared the projected direct ratepayer costs incurred through an increase in retail electricity prices in 2015 and 2021 to the net present value of the economic benefits that would accrue through the investment of allowance revenue in end-use energy efficiency programs in the same years.

Assuming an allowance price of $2.99 per ton (2003 dollars), the Department projects that the auction and other sale of New Jersey's $CO_2$ allowances would raise approximately $67.3 million (2007 dollars) in 2015 that would be available to provide incentives to support the deployment of technologies and measures that result in greater end-use energy efficiency. As a comparison, spending by the Board of Public Utilities Clean Energy Program to support end-use energy efficiency totaled $139.9 million in 2006 (actual and committed annual expenditures). The Department's estimate of available funds assumes the sale of allowances at a fixed-price of $2.00 per ton for facilities identified by the Department as likely meeting the definition of

"dispatch agreement facility," as required pursuant to N.J.S.A. 26:2C-48, which accounted for 29 percent of annual emissions budget for RGGI-affected facilities in 2004. The Department assumes that 29 percent of the allowances representing the annual New Jersey emissions budget are sold at $2.00 per ton, with the remainder auctioned, less one percent allocated to a voluntary renewable energy set-aside. The Department estimated that auctioned allowances are sold at the allowance prices projected by IPM energy sector modeling, as previously outlined.

The Department assumed that allowance revenue is used in accordance with the broad sectoral categories outlined at N.J.S.A. 26:2C-51.7b and assumed the deduction of administrative overhead costs for respective agencies receiving allowance sales and auction revenue, as authorized pursuant to N.J.S.A. 26:2C-51.7c. The Department also assumed that end-use energy efficiency programs supported through allowance revenue achieve similar economic benefits, by sector, as those currently implemented by the BPU Clean Energy Program.

In estimating energy efficiency program performance, the Department relied on the 2008 economic analysis of the Clean Energy Program conducted by the Rutgers Center for Energy, Economic and Environmental Policy (CEEEP)(Rutgers Center for Energy, Economic and Environmental Policy, Cost-Benefit Analysis of the New Jersey Clean Energy program Energy Efficiency programs, January 9, 2008; and personal communication with CEEEP staff). The Department evaluated direct economic cost-benefit factors developed by Rutgers through three program evaluation tests: the Participant Cost test, the Ratepayer Impact Measure test, and the Total Resource Cost test. The Participant Cost test is a measure of the quantifiable benefits and costs to the customer due to participation in an energy efficiency program. The Ratepayer Impact Measure test measures what happens to customer bills or rates due to changes in utility revenues and operating costs caused by the energy efficiency program. The Total Resource Cost test measures the net costs of a program as an energy resource option based on the total costs of the energy efficiency program, including both the participants' and the utility's cost. This test represents the combination of the effects of an energy efficiency program on both the customers participating and those not participating in an energy efficiency program. In effect, it is the summation of the benefit and cost terms in the Participant and Ratepayer Impact Measure tests. Expressed as a cost-benefit ratio, all of the results of these tests represent the ratio of the total discounted benefits of a program to the total discounted costs of a program, discounted over a specified time period. (For specification of these tests, see California Public Utilities Commission, California Standard Practice Manual: Economic Analysis of Demand-Side Programs and Projects, October 2001.)

The Department applied these cost-benefit factors to every dollar assumed to be invested in end-use energy efficiency programs through the use of allowance revenue, by sector. By comparing the projected direct net economic benefits of these allowance revenue investments to the projected direct economic costs to ratepayers resulting from an increase in wholesale electricity costs due to the program (based on the projected annual $/MWh wholesale electricity price increase due to the program multiplied by total MWh load served in New Jersey), the Department developed an economic cost-benefit factor for the projected total direct net economic impacts of the program. As outlined below, a cost-benefit factor above 1.0 indicates that the program is projected to provide net economic benefits, while a factor below 1.0 indicates that the

program is projected to result in net economic costs. These benefits and costs do not include the value of environmental, health, and social benefits accrued through implementation of the program due to the reduction in $CO_2$ emissions.

Assuming the projected direct economic impacts under the Program Case, as described above in the overview of electricity sector modeling results, in 2015 the program achieves a cost-benefit factor of 0.94 assuming energy efficiency program performance under the Ratepayer Impact Measure test and the Total Resource Cost test, and 1.56 assuming energy efficiency program performance under the Participant Cost test. In 2021, the program achieves a cost-benefit factor of 0.96 assuming energy efficiency program performance under the Ratepayer Impact Measure test and the Total Resource Cost test, and 1.59 assuming energy efficiency program performance under the Participant Cost test.

Assuming the greater projected direct economic impacts under a "High Emissions" scenario, as described above in the overview of electricity sector modeling results, in 2015 the program achieves a cost-benefit factor of 1.68 assuming energy efficiency program performance under the Ratepayer Impact Measure test and the Total Resource Cost test, and 2.78 assuming energy efficiency program performance under the Participant Cost test. In 2021, the program achieves a cost-benefit factor of 0.22 assuming energy efficiency program performance under the Ratepayer Impact Measure test and the Total Resource Cost test, and 0.37 assuming energy efficiency program performance under the Participant Cost test.

Pursuant to N.J.S.A. 26:2C-52, the Department is required to implement rule making to outline priorities for the use of revenue from the sale of $CO_2$ allowances. Consistent with the general priorities outlined at N.J.S.A. 26:2C-52, the Economic Development Authority, the Board of Public Utilities, and the Department will design and implement programs to provide incentives for the deployment of end-use energy efficiency and clean energy technologies and measures. The Department is outlining general priorities for the use of allowance revenue here, consistent with the purposes outlined at N.J.S.A. 26:2C-51b.(1) through (4), as part of its evaluation of the economic and other environmental benefits that it expects end-use energy efficiency programs funded through the auction and sale of New Jersey $CO_2$ allowances to achieve, and that are anticipated to maximize benefits to the RGGI program and electricity ratepayers.

Pending rulemaking required pursuant to N.J.S.A. 26:2C-52, the Department's general approach, consistent with the requirements of N.J.S.A. 26:2C-51.7b, is to utilize revenue from the sale of allowances to support consumer benefits as follows:

- The Economic Development Authority will use revenue from the auction and sale of allowances (60 percent) to support the deployment of technologies and measures that increase end-use energy efficiency in the commercial, institutional, and industrial sectors, including a focus on combined heat-and-power applications in urban areas and urban centers well suited to support economic growth, center-based development, and affordable housing.

- The Board of Public Utilities will use revenue from the auction and sale of allowances (20 percent) to support the deployment of technologies and measures that reduce electricity use and demand in urban areas, with a focus on electricity end-use energy efficiency in the low-income and moderate-income residential sector.

- The Department will use the revenue from the auction and sale of allowances (10 percent) to encourage municipalities to reduce greenhouse gas emissions through measures such as the improvement of the end-use energy efficiency of municipal facilities.

To maximize program benefits, the Department believes that programs supported through $CO_2$ allowance revenue should focus primarily on the accelerated deployment of electricity end-use energy efficiency technologies and measures in order to mitigate the impact of the program on wholesale and retail electricity prices. Programs targeting electric end-use energy efficiency and peak demand reduction are expected to have a significant impact in reducing $CO_2$ allowance prices and thereby mitigating potential emissions leakage. IPM modeling analysis has demonstrated that lower electricity demand will result in lower aggregate compliance costs for the electric generation sector and lower $CO_2$ allowance prices, as well as a reduction in projected emissions leakage. (See ICF, "RGGI Electricity Sector Modeling Results: Updated Reference, RGGI Package, and Sensitivities," September 21, 2005, available at http://www.rggi.org/documents.htm.)

Broadly, the Department believes that allowance revenue should be prioritized to support greater electricity end-use energy efficiency in urban areas of the State. This would target areas of the State where end-use energy efficiency would have the greatest economic and environmental impact. Urban areas are subject to electricity transmission congestion, which results in higher localized wholesale electricity prices. Urban areas are also typically subject to greater localized pollution impacts, which raise environmental justice concerns. Urban areas are also home to a larger number of low-income ratepayers that will be disproportionately impacted by electricity rate increases resulting from the program.

In addition, the Department believes that the use of allowance revenue should have a strong focus on improvement of electric end-use energy efficiency across the commercial, institutional, and industrial ratepayer sectors, as authorized by N.J.S.A. 26:2C-51, with a particular focus on customer-sited combined heat and power (CHP) applications. This program focus would address a market sector currently under-served by the BPU Clean Energy Program. In 2006, the Clean Energy Program currently provided $7.8 million in incentives for small CHP (less than one MW). This program is significantly oversubscribed and the BPU notes a significant market demand for incentives addressing large-scale CHP that is not addressed by the current program (BPU, Office of Clean Energy, "New Jersey Clean Energy Program Report, YTD through 4$^{th}$ Quarter 2006," April 9, 2007; personal communication with BPU, Office of Clean Energy staff). The Department believes that if properly designed, CHP incentive programs could also provide benefits to residential sector ratepayers co-located near CHP facilities.

Targeting CHP applications would provide multiple economic growth benefits while providing significant program benefits to the program in the form of lower aggregate compliance

costs. The Department believes that such a program should focus support on CHP projects under 25 megawatts in size that are well located to serve as local economic growth magnets by providing "district energy" services to multiple co-located or nearby energy customers, such as industry, commercial and institutional facilities, and affordable housing complexes. This could include the provision of incentives to support existing "stranded" CHP facilities that are under-utilized or oversized relative to their current electricity and/or steam loads, as well as the development of new strategically located CHP applications that could serve multiple customers. A well-located CHP facility could provide electricity and process steam to an industrial user while providing relatively low-cost heating and cooling to nearby commercial and institutional customers. Surplus electricity could be supplied to the local electricity grid, providing additional revenue to the CHP owner, improving electric system reliability, and reducing the need for costly distribution system upgrades to meet increased local electricity demand.

This approach would provide multiple economic and environmental benefits. Maximizing utilization of CHP applications in the New Jersey would provide industrial facilities with a competitive advantage over facilities in other states. Commercial and industrial facilities would benefit from lower overall energy costs through the provision of high-efficiency, on-site electric and steam generation. Businesses with CHP facilities would also have the ability to sell excess electricity into the wholesale electricity market, providing companies with a hedge against high electricity prices. Significant new customer-sited CHP capacity would help reduce regional transmission congestion, which could provide a measure of electricity price relief to the areas served by CHP facilities. Since CHP capacity is located near energy loads, it reduces the strain placed on electric transmission and distribution infrastructure, which improves electric system reliability and can also result in lower wholesale electricity prices for locations on the grid that have significant CHP capacity (lower locational marginal prices).

CHP facilities would provide high-efficiency, low-emitting energy generation. By reducing local electricity demand, CHP facilities would also reduce the need to operate high-emitting peak electric generation capacity, which the Department has determined to be a major contributor to poor local air quality.

Impacts on Certain Affected Facilities with Long-Term Power Purchase Agreements

Not all facilities have the ability to pass through $CO_2$ compliance costs through the wholesale electricity market, as discussed previously. Some facilities are subject to long-term power purchase agreements (PPAs). PPAs typically involve provision of a minimum fixed amount of energy and capacity to a purchaser that is subject to a fixed price per megawatt-hour (MWh) of energy and megawatt (MW) of capacity, often with an adjustment for variations in fuel costs. It is estimated that long-term contracts currently account for approximately 14 percent of electricity generation in the RGGI region, and could account for approximately 12 percent of regional generation in 2010. (See Wilson et al., The Impact of Long-Term Generation Contracts on Valuation of Electricity Generating Assets under the Regional Greenhouse Gas Initiative, Resources for the Future Discussion Paper, August 2005.) As a result, generators subject to long-term, fixed-price PPAs are not able to factor in the opportunity costs of allowances when determining dispatch costs and generation price offered.

In recent years, many fixed-price PPAs have been renegotiated to a market-based rate based on realized locational marginal prices in the wholesale electricity market. These renegotiated contracts often granted generators the flexibility to dispatch on a merchant basis in exchange for reducing the price paid by the purchaser for delivered firm energy and capacity. The PPA seller retains the responsibility for providing energy and capacity to the purchaser from either the generation facility or other generation resources within the regional power system. A number of facilities in New Jersey that will be subject to the program have renegotiated PPAs in such fashion in recent years. Such facilities are able to pass through $CO_2$ allowance opportunity costs to the wholesale electricity market and will recover some or all of their $CO_2$ compliance costs through the market-based rate they receive for power sold, as discussed previously.

Some generators with long-term PPAs also do not control the dispatch of the unit. Such generators, subject to "dispatchable" contracts, are unable to modify their dispatch in response to $CO_2$ price signals. However, over time it is likely that the $CO_2$ compliance costs of such facilities will be factored into wholesale prices either when PPAs are renewed, renegotiated, or terminated.

The Department has identified four program-affected facilities that are subject to long-term, fixed-price power purchase agreements (PPAs) that would not allow for the pass-through of $CO_2$ compliance costs and would also not allow owners or operators of the affected facilities to modify the dispatch of the facilities in response to a $CO_2$ price signal. The Department anticipates that these four facilities would meet the definition of "dispatch agreement facility" at N.J.S.A. 26:2C-46. These facilities accounted for approximately 6.7 million tons of $CO_2$ emissions in 2004, the last year for which complete data is available, or approximately 29 percent of emissions from program-affected facilities in 2004.

The inability of some facilities with PPAs to directly pass through $CO_2$ allowance costs to the wholesale electricity market does not necessarily mean that generators subject to such PPAs have not evaluated the potential for $CO_2$ compliance costs to impact their dispatch costs, or do not have the ability to adjust or renegotiate contracts based on the imposition of new costs. It is not uncommon for a supplier to negotiate for a "re-opener" or "change-in-law" provision in such contracts that would enable the supplier to renegotiate the price or pass on unforeseen costs incurred because of a change in law. In cases where no such re-opener is included in the contract, it is arguably likely that the supplier of the electricity under the contract has assumed the risk of any change in law that occurs during the term of the contract and factored this risk into the negotiated power supply price. Indeed, placement of risk between two parties is a central theme in any long-term power contract negotiation and change-in-law is a central risk in an industry such as electric generation where the regulatory environment has always been a changing factor. All of the facilities in New Jersey that the Department has identified as "dispatch agreement facilities" were sold in recent years after the proposed program was already well publicized. Appropriate financial due diligence of such purchases would factor possible $CO_2$ compliance costs into an evaluation of the future profitability of these assets.

However, the Department also acknowledges that these facilities are subject to a market failure that does not allow these facilities to factor in $CO_2$ compliance costs to their dispatch

costs or modify the dispatch of the facilities in response to $CO_2$ price signals. To address this market failure, the Department proposes, consistent with the requirements at N.J.S.A. 26:2C-48, to provide an offer to dispatch agreement facilities to purchase $CO_2$ allowances at the price of $2.00 per ton in an annual amount equal to the average annual emissions from the facility during the prior three years, as determined by the Department. The provision of such a fixed-price offer balances the fact that the sale of these facilities likely factored in the cost of $CO_2$ allowances when the purchaser evaluated the future asset value of the facility as part of financial due diligence, but that these facilities are also subject to a market failure that exposes the facilities to significant financial risk dependent on the market price of allowances.

Projected Impact of the Program on the State and Regional Economy

The Massachusetts Division of Energy Resources, in consultation with the Department and the Staff Working Group, evaluated the potential macroeconomic impact of the program on the State and regional economy using a computer model called the Regional Economic Models, Inc. (REMI) (Economic Development Research Group, "REMI Impacts for RGGI Policies," November 17, 2005; available at http://www.rggi.org/documents.htm).

The macroeconomic analysis was conducted using output from the IPM electricity simulation modeling discussed above, using earlier modeling runs than those used as the basis for the Department's estimate, contained herein, of the direct economic impacts of the RGGI program (see IPM runs dated September 14, 2005). The macroeconomic analysis evaluated the macroeconomic impacts of energy modeling scenarios with projected $CO_2$ allowance price ranges between $0.93 to $3.51 per ton in 2009, $1.39 to $5.22 per ton in 2015, and $2.07 to $6.50 per ton in 2021. Specifically, the REMI model evaluated the impact of the RGGI program, both regionally and by state, on gross state product, real personal income, and private sector jobs.

Overall, the analysis indicated that the projected macroeconomic impacts of the program on both the economy of New Jersey and the broader regional economy were very small, resulting in a change in economic indicators of approximately one one-hundredth to three one-hundredths of one percent of projected growth through 2021. For $CO_2$ allowance prices at the low end of the range outlined above, the impact of the program on the State economy was projected to be very small from 2009 through 2021, with very small negative and positive impacts depending on the economic indicator. In New Jersey, the program in 2015 was projected to result in no impact on the relative growth of gross state product, a decrease in the relative growth in real personal income by 0.01 percent, and an increase in the relative growth in private sector jobs by 0.01 percent. For $CO_2$ allowance prices on the high end of the range outlined above, the impact of the program on the State economy was projected to be slightly negative from 2009 through 2021. In New Jersey, the program in 2015 was projected to result in a reduction in the relative growth of gross state product by 0.02 percent, a reduction in the relative growth in real personal income by 0.03, and a reduction in the relative growth in private sector jobs by 0.01 percent.

While the impacts under both scenarios are very small, these results are viewed by the Department as conservative, as the macroeconomic modeling did not assume that $CO_2$ allowances were auctioned and the revenue used to support the deployment of end-use energy

efficiency technologies and measures, which has been demonstrated to generate significant net economic benefits.

Potential Impact of Emissions Leakage

There is the potential that the imposition of a carbon cap on power plants in the RGGI region will cause significant increases in $CO_2$ emissions from electric generators not subject to the program. This presumes a scenario where a larger national program does not exist and the regional program being implemented does not fully cover the respective regional wholesale electricity market(s). The implementation of a national $CO_2$ cap-and-trade program for the electric power sector that is equivalent to the program, or a scenario where the program sunsets once a national program is implemented, would remove most of the potential for emissions leakage (there could possibly be cross-border emissions leakage with Canada, although Canada is also moving to reduce greenhouse gas emissions from the electric power sector). A scenario where a weaker Federal program complements the program could still potentially result in some emissions leakage, although this scenario would be expected to significantly mitigate the potential for emissions leakage relative to a scenario in which the program is implemented in the absence of a Federal program.

The implementation of a carbon cap on in-region power plants is expected to increase the cost of electricity generation in the RGGI region. In a competitive power market, this may have the effect of shifting generation in the larger region to uncontrolled, and presumably cheaper, fossil fuel-fired generation not subject to a carbon cap. This potential shift in generation could be to uncontrolled generation units both inside and outside the RGGI region. This shift in generation and associated emissions from capped sources to non-capped sources is described as "emissions leakage," provided that such a shift results in a net increase in emissions. Implicit in this concept is the notion of causality; specifically that a cost-increase due to a carbon cap is the driver of spatial changes in the operation of the electric power system. This is distinct from a shift in the spatial distribution of electric generation resulting from other market variables and the dynamic nature of the electric power market.

The potential disparity in electricity generation costs between controlled and uncontrolled generation could result in increases in generation and related carbon emissions by uncapped higher-emitting plants that are able to sell power to load-serving entities (LSEs) in the regulated region, with possible decreases in generation and emissions from sources subject to the emissions cap. Since the program will be implemented by the participating states in competitive wholesale electricity markets, a disparity of generation costs between capped and uncapped generators could also lead to a spatial shift in dispatch of generators serving the wholesale spot market.

The economic impacts of such a scenario would be two-fold. Owners of electric generation units subject to the program could see a reduction in revenue as a result of a reduction in the dispatch of the facilities they own. However, IPM modeling has also demonstrated that emissions leakage results in a reduction in the compliance costs of the program, which would partially counterbalance this loss in revenue from affected facilities. This is because emissions leakage is a result of increased emissions from non-affected sources (and a related increase in electricity generation from such sources), which reduces the demand for $CO_2$ allowances by affected sources and in turn results in a lower market price

for $CO_2$ allowances. This impact would also reduce the increase in wholesale and retail electricity prices expected as a result of the implementation of the program.

The Department notes that the majority of emissions leakage projected by IPM modeling as a result of the program was in the form of a shift in new power plant builds to adjacent regions unaffected by the program. As discussed below, the Department does not believe that the modest projected $CO_2$ allowance pieces under the program would be sufficient alone to shift the siting of new power plants, especially in the face of the electric power industry's anticipation of a future Federal program addressing greenhouse gas emissions.

There is significant uncertainty related to the magnitude of potential emissions leakage and the manner in which emissions leakage may occur. There is the potential that wholesale electricity market dynamics and the practices of market participants could result in a significant amount of emissions leakage. However, the Department believes there are mitigating market dynamics and other factors that suggest that under a modest carbon cap, such as that implemented by the participating states under the program, emissions leakage may not be significant, and that concerns for the integrity of the program may be over-stated. As a result, the Department does not believe that the threat of emissions leakage is sufficient to delay implementation of the program. The potential for emissions leakage under the program is discussed in detail below.

The Department does believe that potential emissions leakage should be monitored closely, and has worked with PJM to implement modifications to the PJM Generator Attribute Tracking System (PJM GATS) to allow the Department to track the emissions from non-program-affected generation facilities in PJM that are serving electricity load in New Jersey. (For a summary of the monitoring modifications being made to PJM GATS, see RGGI Staff Working Group, Potential Emissions Leakage and the Regional Greenhouse Gas Initiative (RGGI): Evaluating Market Dynamics, Monitoring Options, and Possible Mitigation Options, March 14, 2007, pp. 18-25.) Counterpart agencies in other participating states are implementing similar modifications to the corresponding tracking systems in ISO New York and New England ISO.

Market Dynamics

The dynamics of a competitive electricity market could drive leakage if it provides a sufficient net financial incentive to shift generation from generation units subject to a carbon cap to generation units not subject to such a cap. The extent of this impact is likely to depend, at least in part, on the market value of $CO_2$ allowances (and the related dollar per MWh $CO_2$ compliance costs) in relation to other economic factors associated with the generation and delivery of electricity. These factors include locational marginal pricing (LMP), transmission congestion charges, standard transmission pricing (including line-loss costs), fuel prices, and relative heat rates of generation units. Reliability constraints will also play a role in determining the dispatch of program-affected units to the extent that program-affected units supply needed capacity and ancillary services within the RGGI region.

Currently there is insufficient information to make precise estimates as to the potential amount of emissions leakage that may occur over the course of the program. However, the Department concludes that key factors going forward will be the relative cost of generation inside and outside the RGGI region, and the relationship and interaction of this cost differential

with physical transmission capability, the full market costs of inter-region power transmission, and the market impacts of transferring significant incremental amounts of power into the RGGI region. The dynamic and highly specific nature of forces that may cause or mitigate emissions leakage makes future projections of emissions leakage difficult. The factors that may result in emissions leakage are likely to be both temporally and geographically specific, given the dynamic operation of the electric power system.

The only empirical data related to emissions leakage impacts from a regional cap-and-trade program comes from the experience of the OTC $NO_x$ Budget Program. (See Ozone Transport Commission, $NO_x$ Budget Program 1999-2002 Progress Report, Ozone Transport Commission and U.S. Environmental Protection Agency, 2003; and Aulisi, et al., Greenhouse Gas Emissions Trading in U.S. States: Observations and Lessons Learned from the OTC $NO_x$ Budget Program, World Resources Institute, 2005.)

During the development of the OTC $NO_x$ Budget Program there was concern that there might be a shift in electricity generation to upwind sources. A review of the OTC program indicates that any emissions leakage that resulted was minimal. However, it is not clear whether the relatively low cost of $NO_x$ controls, other program-related factors, or market conditions themselves were responsible for this outcome.

Despite evidence that any emissions leakage that occurred under the OTC $NO_x$ Budget Program was likely minimal, it is still reasonable to expect that the carbon compliance costs of the program have the potential to affect the relative economics of program-affected generators in relation to uncapped generators. The average cost of $NO_x$ control under the OTC $NO_x$ Budget Program was estimated to be $0.10 to $0.20 per MWh, although on a marginal basis it may have been higher (for example, $NO_x$ allowances were priced at equivalent of $0.40 per MWh based on average values for 2000 ozone season). (See Aulisi et al., Greenhouse Gas Emissions Trading in U.S. States, pp. 13-16.) By contrast, program $CO_2$ allowance costs are projected to be significantly higher on a dollar per megawatt-hour basis. IPM modeling projects program $CO_2$ allowance prices of $3.00 per ton in 2015, rising from $2.00 per ton in 2009 at the program's outset. Based on average $CO_2$ emissions rates for electric generating facilities in the U.S., by fuel type, a $3.00 per ton allowance price translates to compliance costs of approximately $3.00 per MWh for coal-fired plants, $2.20 per MWh for oil-fired plants, and $1.50 per MWh for natural gas-fired plants. (Emissions data from USEPA, eGRID, 2000 data.) A natural gas-fired combined cycle plant, with an emissions rate of 800 pounds $CO_2$ per MWh, would face a compliance cost of $0.80 per MWh at a $2.00 per ton allowance price, and $1.20 per MWh at a $3.00 per ton allowance price.

Locational marginal pricing (LMP) can be expected to affect the market response to the imposition of a carbon cost adder to generation. Locational marginal pricing is based on the principle that the generation of power has different values at different points in the electric power network. LMP is the cost of supplying the next MWh of generation at a specific location, considering transmission constraints and the marginal cost of local generation units. One of the benefits of this price transparency is that LMPs reveal congestion costs in different portions of the transmission system. These price signals allow market participants to respond to changing

conditions in various portions of the grid, reducing the need for system operators to administratively ration limited transmission resources. (For further background, see PJM, Locational Marginal Pricing, LMP-101 Training Materials, March 6, 2006, available at http://www.pjm.com/services/training/downloads/lmp-101-training.pdf.)

Market participants utilize finite transmission resources, and transfers of power in a region can impact the local generation economics in that area, due to the physics of the electric transmission network. Transmission "congestion" occurs when available, low-cost electricity supply cannot be delivered to the demand location due to these transmission limitations. When the least-cost available energy cannot be delivered to load in a transmission-constrained area, higher cost electric generation units in this constrained area are dispatched to meet that load. The result is that the price of energy in the constrained area is higher than in the unconstrained area due to a combination of electricity demand, transmission limitations, and the marginal cost of local generation.

The program's emissions cap is projected to result in modest allowance prices of $2.00 to $3.00 per ton through 2015, which translates to compliance costs of $0.80 to $3.00 per MWh. If the cost of program compliance on a per MWh basis is lower than the aggregate per MWh price signal of mitigating market factors, no net market dynamic driving emissions leakage would be expected to occur. This net market signal would be a function of the relationship between the generation cost differential due to the program and the all-in market cost of transferring incremental power into the RGGI region. While emissions leakage is likely to be driven by site-specific factors, the Department notes that the average price signal from these mitigating factors, based on recent market conditions, exceeds the projected compliance costs of the program on a $/MWh basis. These market factors that may impact the economics of importing incremental power in response to a carbon price signal include:

- Existing generation price differentials: Differential LMPs between regions represent the presence of transmission constraints that require the dispatch of higher priced generation in a certain region. In 2005, average load-weighted zonal LMPs in eastern PJM (NJ, DE, MD) averaged $4.00 to $8.00 per MWh above the LMP at the PJM western hub, with the highest differential in the PSE&G zone in New Jersey, indicating the presence of existing transmission congestion. (PJM, 2005 State of the Market Report, p. 299.)

- Congestion charges: Congestion charges and the standard cost of electricity transmission may make significant incremental imports into the RGGI region uneconomic as a response to a modest generation price differential resulting from a carbon cap. In PJM, power transmission is subject to congestion charges, which are based on the difference between LMPs at the source (generator location, or "generator bus") and LMPs at the sink (electric distribution utility location, or "LSE bus"). Thus, in addition to standard transmission charges, power purchasers importing power into the RGGI region would need to pay congestion charges based on the differential between LMPs in the uncapped region where the generator is located and LMPs in the capped RGGI region where the purchaser is located.

- Line loss charges: The greater the distance that electricity is transmitted, the greater the loss of the power initially put into the line. The costs of transmission line-losses impact the economics of importing power. For example, in PJM, firm point-to-point transmission (for PJM exports and "wheeling" of power through PJM) is charged for line losses at a percentage of the PJM load-weighted average LMP (three percent on-peak and 2.5 percent off peak). Based on PJM load-weighted LMPs for 2005, this translates to $2.34 per MWh on-peak and $1.19 per MWh off-peak. Non-firm, point-to-point transmission is charged for line loses at $0.67 per MWh. (PJM, Overview of Market Settlements, Transactions 201 Training Materials, February 24, 2005, pp. 48-53.)

Other factors, such as existing long-term power purchase agreements and the challenges associated with siting and developing new transmission capability, could affect the near- and mid-term emissions leakage potential.

Existing plant-specific, fixed-price power purchase agreements can be expected to mitigate emissions leakage, since units that are subject to such power purchase agreements will continue to dispatch subject to the terms of these agreements once the RGGI program is implemented. Electric generation facilities representing approximately 29 percent of the 2004 $CO_2$ emissions from New Jersey program-affected facilities are subject to long-term power purchase agreements where $CO_2$ compliance costs are not expected to affect the dispatch of the facilities. These facilities are subject to power purchase agreements where the dispatch of the facility is controlled by the power purchaser, rather than the facility owner. For these facilities, the power purchasers, which control plant dispatch, would not be subject to a $CO_2$ compliance obligation and would not face related $CO_2$ compliance costs.

Some stakeholders have suggested that the development of new transmission could be the most significant factor driving potential emissions leakage, because increased deployment of new transmission both into and within the RGGI region would result in greater transmission capability and (presumably) smaller inter-regional electricity generation price differentials (reduced LMP differential), which would promote power flows into the region in response to a carbon compliance cost adder in the RGGI region. The Department notes that the impact of the addition of new transmission capability would likely be more complex, due to the dynamic nature of the transmission system, than the generalized impacts that have typically been discussed by stakeholders. An example of these complex dynamics is the Neptune transmission line, currently under construction from New Jersey to Long Island. Modeling by PJM projects that the Neptune line could raise average LMPs in New Jersey by two to six percent, depending on the PJM control zone. Increasing transfers of electricity from New Jersey to Long Island through operation of the Neptune line could be expected to affect the dispatch of electric generation units on Long Island, increase output of PJM baseload generation, and increase transmission congestion into and within New Jersey. (See PJM, "PJM Market Simulation: Analysis of Possible Affect of Neptune Project on PJM Wholesale Electricity Prices," 2005.) While an expected decrease in electricity generation in Long Island could possibly represent emissions leakage form New York electric generation facilities, increased transmission congestion and an associated rise in LMPs in New Jersey would be expected to mitigate

emissions leakage from New Jersey. The net impact of such dynamics on potential emissions leakage is unknown at this time.

Multiple factors indicate that the potential for emissions leakage is primarily a short- to mid-term concern. The majority of new planned transmission capability in PJM, if built, is likely to come on-line in the post-2012 time frame. The Department notes that most of the transmission that has been recently proposed in the broader region would be constructed on a merchant basis and is therefore subject to significant uncertainty. Many business executives expect a national carbon policy to be implemented between 2012 and 2015. (See Hoffman, A., Getting Ahead of the Curve: Corporate Strategies that Address Climate Change, Pew Center on Global Climate Change, October 2006.) A national carbon cap would in large part address the emissions leakage issue. The implementation of a national $CO_2$ cap-and-trade program for the electric power sector that is equivalent to the program, or a scenario where the program sunsets once a national program is implemented, would obviate any potential for emissions leakage. A scenario where a weaker Federal program complements the RGGI program could still potentially result in emissions leakage, although this scenario would be expected to mitigate potential emissions leakage.

Modeling Projections

The electricity sector modeling, as outlined previously, evaluated the potential impact of emissions leakage. In brief, the modeling results indicated the following:

- While electricity imports decrease across the region in the BAU Case, an increase in net electricity imports with associated emissions leakage is projected under the Program Case.

- Under the Program Case, cumulative emissions leakage was estimated at 27 percent of net $CO_2$ emissions reductions through 2015. (See October 11, 2006 IPM runs, available at http://www.rggi.org/documents.htm. This projection is presented as a percentage of net $CO_2$ emissions reductions achieved, which includes emissions reductions projected by IPM to be achieved through emissions offsets.)

- Higher allowance prices lead to a higher level of projected emissions leakage. Previous modeling runs that projected lower allowance prices than the most recent runs outlined previously herein also projected lower cumulative emissions leakage of 18 percent through 2015. (See September 14, 2005 IPM runs, available at http://www.rggi.org/documents.htm.)

- Projected emissions leakage is predominantly in the form of a shift in the location of new natural gas-fired power plant builds, rather than decreased utilization of existing plants. (RGGI Staff Working Group, Potential Emissions Leakage and the Regional Greenhouse Gas Initiative (RGGI), March 14, 2007, pp. 9-10.)

- Modeling results projected that the majority of incremental net electricity imports would enter and be used in the participating states that are part of the PJM regional transmission organization power pool.

- Inclusion of program components that reduce the cost of the program, such as lesser cap stringency, offsets and other flexibility measures, and end-use energy efficiency, reduce projected $CO_2$ allowance prices and projections of incremental net electricity imports.

The Department acknowledges that the IPM model presents limitations for estimating emissions leakage. Based on the discussion above, emissions leakage is likely to be impacted by a number of location-specific market variables. The IPM model uses an aggregation of the electric transmission system that does not fully capture these site-specific variables. The IPM model also makes new power plant build and siting decisions based primarily on the levelized cost of electricity generation, and does not fully capture the localized issues that may impact power plant siting decisions

An analysis of the IPM modeling results also indicated that the majority of incremental net electricity imports were projected to come from new natural gas-fired combined-cycle plants constructed outside the RGGI region, rather than a reduction in the utilization of existing plants. The model projected these new plants would be built within the RGGI region in the BAU Case, but shifted these plant builds to bordering states outside of the RGGI region after the cap was assumed. The model projected that a modest incremental cost to comply with the program would be sufficient to shift plant build locations, an outcome that the Department deems to be unlikely. The Department notes that power plant siting is subject to a number of considerations not fully captured by the IPM model, including location-specific electricity demand, access to transmission, local siting and permitting considerations, localized capacity and electricity prices, and the ability to obtain a power purchase contract with an LSE or other party under suitable terms to secure project financing.

Impact of Maryland Participation in RGGI

Maryland signed the RGGI Memorandum of Understanding in April 2007, becoming the 10th state to participate in the initiative. The participation of Maryland in RGGI may have an impact on potential emissions leakage. A modeling analysis evaluating the impact of Maryland's joining the RGGI program was commissioned by the Maryland Department of the Environment. Led by the University of Maryland, the analysis found that the impact of the inclusion of Maryland was likely to have a very small impact on potential emissions leakage:

Maryland joining RGGI initiates a series of changes in the electricity market and related fuel and allowance markets that are difficult to predict or model with precision. Because the changes are small, and the relationships complex, the results from the model are most useful when interpreted qualitatively. The bottom line is that according to the modeling exercise, Maryland joining RGGI is not expected to lead to an increase in leakage beyond that which may already occur under the policy in the Classic [nine-state] RGGI region. (Center for Integrative Environmental Research, University of Maryland, College Park, Economic and Energy Impacts

from Maryland's Potential Participation in the Regional Greenhouse Gas Initiative, January 2007, pp. 36-38, available at http://www.cier.umd.edu/RGGI/index.html.)

Initial Conclusions Regarding Potential Emissions Leakage

The Department concludes that it is prudent to expect that emissions leakage may occur if the costs of acquiring in-region generation supply, including the $/MWh $CO_2$ compliance costs, exceed the all-in cost of acquiring alternate fossil fuel-fired generation supply that is not subject to a carbon constraint, including the cost of delivering power into the RGGI region. Without sufficient empirical data, however, it is unclear exactly to what extent carbon compliance costs will play a role in relation to the other market variables outlined above.

The Department believes that current modeling data indicates that emissions leakage will be modest and that the potential threat of emissions leakage is not sufficient to delay implementation of the $CO_2$ Budget Trading Program. PJM, at the Department's request, has agreed to make specific modifications to the PJM Generator Attribute Tracking System (GATS) that will allow the Department to monitor for potential emissions leakage

## Environmental Impact

Through the reduction of $CO_2$ emissions and a related reduction in atmospheric concentrations of greenhouse gases that are driving climate change, the Department anticipates that the proposed amendments and new rules will have a positive environmental impact in New Jersey by mitigating the adverse environmental impacts that are projected to occur as a result of climate change.

Anticipated Emissions Reductions

The Department projects that regionally the $CO_2$ Budget Trading Program will result in a 15.6 percent reduction in $CO_2$ emissions from regulated sources in 2021, relative to projected business-as-usual emissions, and a cumulative emissions reduction of 187 million short tons of $CO_2$ from 2009 through 2021. The Department also projects that in New Jersey the $CO_2$ Budget Trading Program will result in a 21.7 percent reduction in $CO_2$ emissions from regulated sources in 2021, relative to projected business-as-usual emissions, and a cumulative emissions reduction of 38 million short tons of $CO_2$ from 2009 through 2021.

The Department notes that while on a global scale these emissions reductions are relatively modest and will have a modest impact on global atmospheric concentrations of greenhouse gases, the Department must still act. Due to the global magnitude of $CO_2$ emissions, collective action must be taken by multiple nations, regions, and localities in order to reduce global greenhouse gas emissions to levels that will mitigate the potential for dangerous human interference with the climate system. In this context, New Jersey's greenhouse gas emissions are significant, and exceed the emissions of 25 Annex I nations that are signatories to the United Nations Framework Convention on Climate Change (Climate Analysis Indicators Tool (CAIT UNFCCC) Version 2.0, World Resources Institute, 2008; New Jersey Department of Environmental Protection, Draft New Jersey Greenhouse Gas Inventory and Reference Case Projections 1990-2020, February 2008). Regionally, the $CO_2$ emissions from electric generators

that will be subject to the $CO_2$ Budget Trading Program exceed the emissions of 27 Annex I nations that are signatories to the United Nations Framework Convention on Climate Change (Climate Analysis Indicators Tool (CAIT UNFCCC) Version 2.0, World Resources Institute, 2008; Regional Greenhouse Gas Initiative, "$CO_2$ Emissions Data Files for 2000-2006 for Electric Generating Units (EGUs) Subject to RGGI Program," available at http://www.rggi.org/draftdata.htm).

There is also evidence that the $CO_2$ Budget Trading Program is building momentum for the enactment of a federal cap-and-trade program to reduce $CO_2$ emissions (see, for example, Barringer, F., "A Coalition for Firm Limit on Emissions," New York Times, January 19, 2007). By accelerating national action to address climate change, the Department believes that the proposed rules and amendments will result in broader future environmental benefits beyond the direct emissions reduction benefits achieved through the $CO_2$ Budget Trading Program. Given the very serious nature of the projected environmental, social, and economic impacts of climate change, the Department believes that there is a responsibility to act, and that leadership asserted by the State now will result in a more timely adoption of required Federal measures to reduce greenhouse gas emissions, which will reduce environmental impacts to the State and its residents.

Environmental Impacts of Climate Change

On October 18, 2004, the Department made a formal determination that regulating $CO_2$ is in the best interest of human health, welfare, and the environment, and outlined compelling scientific evidence of existing and projected adverse impacts due to climate change on the environment, ecosystems, wildlife, human health, and enjoyment of property in the State (October 18, 2004 at 36 N.J.R. 4607(a), 4608 – 4609). The impacts outlined below supplement this determination and incorporate more recent analyses and evidence of the adverse impacts of climate change on the State.

There is a broad scientific consensus that human-caused greenhouse gas emissions are impacting the Earth's climate and that increasing atmospheric greenhouse gas concentrations will result in very significant adverse global, regional, and local environmental impacts (Intergovernmental Panel on Climate Change, Climate Change 2007: Synthesis Report, Summary for Policymakers, Fourth Assessment Report, November 2007). According to the Intergovernmental Panel on Climate Change (IPCC), future atmospheric $CO_2$ concentrations will be primarily tied to anthropogenic $CO_2$ emissions: "Emissions of $CO_2$ due to fossil fuel burning are virtually certain to be the dominant influence on the trends in atmospheric $CO_2$ concentration during the 21st century" (IPCC, Summary for Policy Makers, Third Assessment Report, 2001, p. 12).

There is also broad scientific consensus that reducing greenhouse gas emissions will mitigate the projected impacts anticipated under higher emissions scenarios. According to the IPCC, "continued [greenhouse gas emissions] at or above current rates would cause further warming and induce many changes in the global climate system during the 21st Century that would very likely be larger than those observed during the 20th Century" (Intergovernmental Panel on Climate Change, Climate Change 2007: Synthesis Report, November 2007). There is

broad scientific consensus that greenhouse gas emissions must be reduced very significantly in order to mitigate the expected adverse impacts of climate change, and that higher atmospheric greenhouse gas concentrations could lead to potential dangerous destabilization of the global climate system (see, for example, Hansen, J. et al., "Dangerous human-made interference with climate: a GISS model study," Atmos. Chem. Phys 7 (2007): 2287-2312).

According to the IPCC, the atmospheric concentration of $CO_2$ has risen 31 percent since 1750, primarily due to anthropogenic emissions from fossil fuel combustion, with land-use change providing a significant but smaller contribution. By 2100, atmospheric concentrations of $CO_2$ are expected to reach 540 to 970 ppm (90 percent to 250 percent above the 1750 concentration of 280 ppm) (Intergovernmental Panel on Climate Change, Third Assessment Report of Working Group I, Climate Change 2001: The Scientific Basis, 2001). Recent studies indicate that atmospheric concentrations of $CO_2$ and methane are higher today than at any point during the last 800,000 years. Levels of $CO_2$ are now 28 percent higher than at any other point during this period, and concentrations of methane are now 134 percent higher. (Luthi. D. et al., Nature 453 (2008): 379-382; Loulergue, L. et al., Nature 453 (2008): 383-386.)

This increase in atmospheric greenhouse gas concentrations is already altering the climate and leading to rising sea levels. According to the IPCC, most of the observed increase in global average temperatures since the mid-20th Century is very likely due to the observed increase in anthropogenic atmospheric greenhouse gas concentrations (Intergovernmental Panel on Climate Change, Climate Change 2007: Synthesis Report, November 2007). The IPCC reports that global average surface temperatures have risen by 0.74 degrees Celsius (1.3 degrees Fahrenheit) from 1906 to 2005 and projects that global temperatures will increase by 1.1 to 6.4 degrees Celsius by 2090 to 2099 (2.0 to 11.5 degrees Fahrenheit), relative to temperatures during the period 1980 to 1999 (Intergovernmental Panel on Climate Change, Climate Change 2007: Synthesis Report, November 2007).

The IPCC reports that global average sea level has risen since 1961 at an average rate of 1.8 millimeters per year and since 1993 has risen at a rate of 3.1 millimeters per year (Intergovernmental Panel on Climate Change, Climate Change 2007: Synthesis Report, November 2007). The IPCC projects that by 2090 to 2099 sea level will rise between 0.18 and 0.38 meters (0.59 to 1.25 feet) under a lower-emissions scenario (B1 scenario) and between 0.26 and 0.59 meters (0.85 to 1.94 feet) under a higher-emissions scenario (A1FI scenario), relative to sea level during the period 1980 to 1999. However, the IPCC acknowledges that this projection does not include uncertainties in climate-carbon cycle feedbacks or the full effects of changes in ice sheet flow and, therefore, the upper values of the projected ranges should not be considered upper bounds of potential sea level rise (Intergovernmental Panel on Climate Change, Climate Change 2007: Synthesis Report, November 2007). According to the IPCC, these trends are primarily due to increasing atmospheric greenhouse gas concentrations: "[I]t is very likely that the 20$^{t}$h century warming has contributed significantly to the observed sea level rise, through thermal expansion of sea water and widespread loss of land ice" (Intergovernmental Panel on Climate Change, Summary for Policy Makers, Third Assessment Report, 2001, p. 10).

More recent analysis projects a greater sea level rise by the end of this century of between two and 4.5 feet above 2005 levels under the higher-emissions scenario (A1FI) (Rhamstorf, S., A semi-empirical approach to projecting future sea-level rise, Science 315 (5810): 368-370).

Increasing temperatures have led to a number of significant observed impacts, including a reduction in the mass of the world's alpine glaciers, an increase in permafrost thawing at high latitudes and altitudes, a reduction in the extent and thickness of Arctic sea-ice, later freeze-up and earlier break-up of ice on rivers and lakes, and an increase in the rate at which icebergs break off Antarctic ice shelves. (See Osterkamp. T. E. and V. E. Ramanovsky, Permafrost and Periglacial Processes 10 (1999): 17; Jin, H. et al., Global and Planetary Change 26 (2000): 387; Rothrock D. A., et al., Geophysical Research Letters 26 (1999): 3469; Wadhams, P., and N. R. Davis, Geophysical Research Letters 27 (2001): 3973; and Vinnikov, K., et al., Science 286 (1999): 1984; Magnuson, J. J., et al., Science 289 (2000): 1743; Scambos, T. A., et al., Annals of Glaciology 46 (2000): 516.)

Projected Climate Change in the Northeast

The most comprehensive peer-reviewed research of climate change impacts in the Northeast to-date was conducted by an independent team of more than 50 academic researchers and other experts as part of the Northeast Climate Impacts Assessment (NECIA), coordinated by the Union of Concerned Scientists. (See Frumhoff, P. et al., Confronting Climate Change in the U.S. Northeast: Science, Impacts, and Solutions, Synthesis Report of the Northeast Climate Impacts Assessment (NECIA), Union of Concerned Scientists, 2007.) NECIA evaluated historical and projected climate change in the Northeast region and associated impacts on key climate-sensitive sectors. NECIA used historical weather and hydrological observations, historical climate simulations, and future climate projections to assess changes in mean and extreme climate, atmospheric dynamics, climate indicators, and hydrology for the Northeast region.

NECIA used three state-of-the art global climate models and greenhouse gas emissions scenarios from the IPCC to project future climate in the Northeast. Under a higher-emissions scenario (A1FI scenario), atmospheric $CO_2$ concentrations are projected to reach 940 ppm by 2100 (more than tripling of pre-industrial levels) and, under a lower-emissions scenario (B1 scenario), atmospheric $CO_2$ concentrations are projected to reach 550 ppm by 2100 (an approximate doubling of pre-industrial levels). (For a detailed description of IPCC emissions scenarios, see Nakicenovic, N. et al., Special Report on Emissions Scenarios, Intergovernmental Panel on Climate Change, 2000.) These emissions projections were used as inputs to three atmosphere-ocean general circulation models (AOGCMs): the U.S. National Oceanic and Atmospheric Administration's Geophysical Fluid Dynamics Laboratory (GFDL) CM2.1 model, the United Kingdom Meteorological Office's Hadley Centre Climate Model version 3 (HadCM3), and the National Center for Atmospheric Research's Parallel Climate Model (PCM). To transform global projections from these models (provided for grid cells from 50 to 250 miles on a side) into higher resolution regional projections, the NECIA team used well-established statistical and dynamical downscaling techniques.

The NECIA analysis indicates that average temperatures in the Northeast have increased by 1.5 degrees Fahrenheit since 1990, and have been increasing in at a rate of nearly 0.5 degrees Fahrenheit per decade since 1970, with winter temperatures rising faster, at a rate of 1.3 degrees Fahrenheit per decade, for a total winter warming of 4.0 degrees Fahrenheit between 1970 and 2000.

Under the higher-emissions scenario, NECIA projects that by late century (2070 to 2099) average temperatures in the Northeast will increase by eight to 12 degrees Fahrenheit in summer and six to 14 degrees Fahrenheit in winter. Under the lower-emissions scenario, these increases are projected to be smaller, ranging from five to eight degrees Fahrenheit in summer and three to seven degrees Fahrenheit in winter.

NECIA projects that under the higher-emissions scenario the heat index (how hot it feels based on temperature and humidity) for an average summer day in the Northeast will increase by 12 to 16 degrees Fahrenheit by late century (2070 to 2099). For the Tri-State region (New Jersey, New York, and Connecticut), climate change is projected to result in a climate that resembles that of South Carolina under the higher-emissions scenario, and a climate comparable to that of Virginia under the lower-emissions scenario.

Climate change is projected to dramatically increase the number of very hot summer days. By late century, NECIA projects that many Northeast cities can expect 60 or more days per year over 90 degrees Fahrenheit under the higher-emissions scenario and 30 or more such days under the lower-emissions scenario. NECIA projects that the number of days per summer over 100 degrees Fahrenheit would range between 14 and 28 days under the higher-emissions scenario and between three and nine days under the lower emissions scenario.

Annual average precipitation in the Northeast has been gradually increasing since 1900 by five to 10 percent across the region. Under both emissions scenarios, NECIA projects that rainfall will become more intense and periods of heavy rainfall are expected to become more frequent, increasing the potential for flooding. Increases in precipitation intensity of eight to nine percent are expected by mid-century, and by 10 to 15 percent by late century. The number of heavy precipitation events is also projected to increase eight percent by mid-century and 12 to 13 percent by late century. NECIA projects that winter precipitation will increase by 20 to 30 percent, with larger increases under the higher-emissions scenario, and a greater proportion of winter precipitation will fall as rain rather than snow.

While precipitation is projected to increase, NECIA projects a significant increase of short-term droughts (one to three months) and medium-term droughts (three to six months) in the Northeast by the end of the century under the higher emissions scenario, with only slight increases in such droughts under the lower-emissions scenario. This is anticipated due to changes in the timing and frequency of precipitation and increases in evaporation due to warmer temperatures.

Air Quality Impacts

Rising ambient temperatures will exacerbate the formation of ground-level ozone, which will further challenge New Jersey's attempts to meet national ambient air quality standards for protection of human health and welfare. NECIA projects that increasing temperatures due to climate change will lead to significant increases in ozone in the Northeast by the end of this century (2070 to 2099) absent significant further reductions in emissions of ozone-forming pollutants. This means that under projected future climate conditions, programs designed to improve air quality will require even greater emissions reductions than now anticipated. By the end of this century, the number of days when the USEPA eight-hour ozone standard is exceeded in the Northeast is projected to increase by more than 300 percent under the higher-emissions scenario and by 50 percent under the lower-emissions scenario. Both mean daily and eight-hour maximum ground-level ozone concentrations in the Northeast are projected to increase by 10 to 25 percent under the higher-emissions scenario and 0 to 10 percent under the lower emissions scenario. In Philadelphia, ozone concentrations are projected to increase 17 to 26 percent under the higher-emissions scenario and four to 11 percent under the lower-emissions scenario. In New York City, ozone concentrations are projected to increase 15 to 25 percent under the higher-emissions scenario and three to 11 percent under the lower-emissions scenario. (Frumhoff, P.C. et al., Confronting Climate Change in the U.S. Northeast, 2007).

A separate analysis, conducted as part of the U.S. National Assessment of the Potential Consequences of Climate Variability and Change, projected a significant increase in annual average eight-hour daily maximum ozone concentrations in the metro New York City region by 2030 and continued increases through 2100, as well as an enhancement of the secondary formation of fine particulates (PM 2.5) under these conditions (Kinney et al., Climate Change and Public Health: Impact Assessment for the NYC Metropolitan Region, 2000; U.S. Global Change Research Program, Climate Change and a Global City: An Assessment of the Metropolitan East Coast Region, 2000). The analysis concluded that "climate change impacts should be included as one of the considerations in developing long-range strategies directed towards ground-level ozone mitigation in the MEC [Metropolitan East Coast] region" (Kinney et al., Climate Change and Public Health, 2000, p. 28).

Human Health Impacts

NECIA projects that climate change will have significant adverse impacts on human health in the Northeast. Major cities in the Northeast are projected to experience a significant increase in the number of days with temperatures above 90 degrees and 100 degrees Fahrenheit. Philadelphia averaged two days per year with temperatures above 100 degrees Fahrenheit during the period 1961 to 1990; by late century (2070 to 2099) this is projected to increase to nine days per year under the lower-emissions scenario and 28 days per year under the higher-emissions scenario. Under the higher-emissions scenario, Philadelphia is also projected to experience more than 80 days per year with temperatures above 90 degrees Fahrenheit. New York City averaged two days per year with temperatures above 100 degrees Fahrenheit during the period 1961 to 1990; by late century (2070 to 2099), this is projected to increase to seven days per year under the lower-emissions scenario and 25 days per year under the higher-emissions scenario.

In addition to adverse impacts on air quality noted above, NECIA projects that this increase in summer temperatures will result in an increase in heat stress and heat-related

mortality, especially for vulnerable populations such as the elderly and urban poor, and an overall increase in temperature-related mortality, even when accounting for a projected reduction in cold-related mortality. An analysis by NECIA found that neighborhoods in the urban centers of older cities in the Northeast are highly vulnerable to climate-related hazards, including extreme heat events. An increased demand for air conditioning to adapt to these impacts will also place greater demand on the regional power grid and increase requirements for peak electric generation capacity, with attendant costs and ratepayer impacts. An analysis of electricity demand in New York City and surrounding counties under different climate projections indicated that peak electricity demand on a 101 degree Fahrenheit day with 80 percent humidity would be nearly 40 percent higher than on an 85 degree day with 40 percent humidity (Rosenzweig, C. and W.D. Solecki eds., Climate Change and a Global City: An Assessment of the Metropolitan East Coast Region, U.S. Global Change Research Program, 2000).

NECIA projects that increases in both temperature and ambient $CO_2$ levels due to climate change will increase the production of pollen, and potentially the potency of individual pollen grains, in the Northeast, resulting in a significant increase in pollen-based allergies. Combined with other factors influenced by climate change, such as ozone pollution, an increase in airborne allergens will likely translate into an increase in the incidence and severity of asthma and other allergic diseases in the Northeast, especially in urban areas.

Sea Level Rise Impacts

Sea level rise due to climate change will have significant adverse impacts on New Jersey. According to the 2002 U.S. Climate Action Report, New Jersey is especially vulnerable to impacts from sea level rise due to geologic subsidence, the topography of its coastline, current coastal erosion, and a high density of coastal development:

> [A]n increased rate of global sea level rise is likely to have the most dramatic impacts in regions where subsidence and erosion problems already exist. Estuaries, wetlands, and shorelines along the Atlantic and Gulf coasts are especially vulnerable. Impacts on fixed structures will intensify, even in the absence of an increase in storminess. However, because the slope of these areas is so gentle, even a small rise in sea level can produce a large inland shift of the shoreline. The rise will be particularly important if the frequency or intensity of storm surges or hurricanes increases (U.S. Department of State, U.S. Climate Action Report, 2002, p. 103).

The effects of sea level rise will be exacerbated in New Jersey, since relative sea level rise in New Jersey will be greater than the global average due to coastline subsidence. As an example, the mean sea level at Atlantic City rose by 0.3 meters during the period from 1920 to 2000, compared to a global average between 0.1 and 0.2 meters (Norbert P. Psuty, Rutgers University, personal communication, January 7, 2003). In addition to significant property losses, sea level rise will adversely impact coastal ecosystems and may threaten coastal fresh water supplies due to salt-water intrusion. (U.S. Global Change Research Program, Metropolitan East Coast Assessment of Impacts of Potential Climate Variability and Change, 2000; U.S. Global Change Research Program, Mid-Atlantic Assessment of Impacts of Potential Climate Variability and Change, 2000.)

Projected sea level rise will have significant impacts on coastal communities, infrastructure, property, and the environment in New Jersey. The U.S. Geological Survey (USGS) has determined, based on a coastal vulnerability index, that more than 80 percent of the New Jersey coastline is highly or very highly vulnerable to the effects of sea level rise (Thieler, E.R. and E.S. Hammar-Klose, National assessment of coastal vulnerability to future sea-level rise: Preliminary results for the U.S. Atlantic Coast, Open-File Report 99-593, U.S. Geological Survey, 1999).

New Jersey is the most densely populated state in the nation, and 60 percent of its population lives in its coastal counties. The New Jersey coastal region supports a $16 billion annual tourism industry that employs hundreds of thousands of State residents. The region also supports a $50 billion annual maritime industry centered in the port of New York and New Jersey, and a $100 million annual commercial fishing industry (Cooper, J.P., et al., Future Sea Level Rise and the New Jersey Coast: Assessing Potential Impacts and Opportunities, Princeton University, 2005). New Jersey's coastal zone is heavily impacted by development with a high degree of developed land uses in close proximity to tidal waters and therefore vulnerable to future sea level rise. Most of this zone that is within 500 meters from tidal water is developed to some degree or used for agriculture. Infrastructure near the shore including buildings and shoreline armoring limits future flexibility in adapting to projected sea level rise and coastal storm surges (Lathrop, R. and A. Love, Vulnerability of New Jersey's Coastal Habitats to Sea Level Rise, Grant F. Walton Center for Remote Sensing & Spatial Analysis, Rutgers University, 2007).

Some of the most important infrastructure that is close to tidal waters is transportation-related. Climate change will affect transportation infrastructure in ways that will be widespread and costly in both human and economic terms and will require significant changes in the planning, design, construction, operation, and maintenance of transportation systems. Potentially, the greatest impact of climate change on North America's transportation system will be flooding of coastal roads, railways, transit systems, and airport runways (Transportation Research Board, Potential Impacts of Climate Change on U.S. Transportation, 2008).

The New Jersey coast also supports a range of ecosystems that are home to at least 24 endangered and threatened wildlife species, 11 of which are listed under the Federal Endangered Species Act. New Jersey's beaches and coastal wetlands also serve as a globally significant stopover point for an estimated migratory shorebirds, and support the world's largest population of horseshoe crabs (Cooper, J.P., et al., Future Sea Level Rise and the New Jersey Coast, 2005).

The effects of rising sea level are magnified during storm events and, therefore, higher sea levels will increase the severity of storm-related flooding in coastal and bay areas (Frumhoff P. et al., Confronting Climate Change in the U.S. Northeast, 2007). Sea level rise, combined with tides and high winds can lead to higher storm surges, which is likely to increase damage from storms even if storms do not change in frequency, intensity, or path. Low-lying barrier islands are expected to face higher storm surges that can wash over and cut inlets through the islands. As sea level rises, low-lying barrier beaches will respond dynamically to wave action

and erosion. Shoreline erosion is already a severe problem in New Jersey, with the State's 100 miles of near-continuous sandy beach suffering from severe erosion exacerbated by storm damage and coastal development. The impact of waves, especially during storm events, on shoreline retreat and wetland loss is projected to be much greater than the loss of land due only to sea level rise itself (Frumhoff P. et al., Confronting Climate Change in the U.S. Northeast, 2007).

Given projections of sea level rise, NECIA projects a significant increase in the frequency of 100-year floods for coastal New Jersey communities. (A 100-year flood is a frequently used benchmark that represents the maximum elevation likely to be equaled or exceeded on average once every century in a given location. In any one year, there is a one percent probability that a 100-year flood will occur.) By the end of this century, NECIA projects that the frequency of a 100-year coastal flood in Atlantic City will increase to every four years on average under either emissions scenario, and to every one or two years under the higher-emissions scenario. By 2100, NECIA projects that most locations on the Northeast coast will experience an increase of 1.5 feet above the current 100-year flood elevation under the higher-emissions scenario and one foot under the lower-emissions scenario. This will require a calculation of new 100-year flood levels for use in coastal zone management, and significantly increase the land area subject to the 100-year flood level.

An analysis by Princeton University researchers, using digital elevation models, evaluated the extent to which coastal areas in New Jersey are susceptible to permanent inundation and episodic flooding assuming various increases in relative sea-level rise (Cooper, J.P. et al., Future Sea Level Rise and the New Jersey Coast: Assessing Potential Impacts and Opportunities, Princeton University, 2005). The Princeton study evaluated the impact of a 0.61 meter sea level rise (two feet) and a 1.22 meter sea level rise (four feet). The analysis indicated that a 0.61 meter sea level rise would result in inundation of nearly one percent of the total land area of the State (170 square kilometers), while a 1.22 meter sea level rise would result in inundation of three percent of the State's total land area (442 square kilometers).

The Princeton study also evaluated the impact of sea level rise on storm surges that result in coastal flooding, by evaluating the projected flood-water level given different assumed increases in sea level. The current 100-year tidal surge flood-water level for Atlantic City, established by the Federal Emergency Management Agency based on historic flood levels, is 2.9 meters. This represents a one percent probability in any year that water levels will meet or exceed 2.9 meters. Assuming a sea level rise of 0.61 meters, the current 100-year flood level would become the 30-year flood level; assuming a 1.22 meter sea level rise, the current 100-year flood level would become the five-year flood level. The current 100-year flood level is estimated by the Princeton analysis to inundate an area representing approximately 6.5 percent of the State's total land area (1,251 square kilometers). Assuming a sea level rise of 0.61 meters, this would rise to more than nine percent of the State's total land area (1,787 square kilometers).

Estimates of the cost of protecting threatened property and undeveloped coastlines in the Mid-Atlantic from sea level rise through 2100 are in excess of $30 billion (2007 dollars) (Titus et al., "Greenhouse Effect and Sea Level Rise: The Cost of Holding Back the Sea," Coastal

Management 19 (1991): 171-204). Estimates of the cumulative cost of sand required to protect the New Jersey open coast through 2100 range from $1.4 billion to $4.0 billion (0.5 meter sea level rise) to $2.6 billion to $6.5 billion (1.0 meter sea level rise); by comparison, the baseline cost absent additional sea level rise is projected at $240 million through 2100 (Titus et al., "Greenhouse Effect and Sea Level Rise," 1991; all figures adjusted to 2007 dollars). More recent data indicate that beach replenishment costs may significantly exceed these estimates. The Department has determined that actual beach replenishment costs exceeded $560 million (2007 dollars) in the 1990 to 1999 period, and estimates that beach replenishment costs could increase in the future (NJDEP analysis, based on data from Duke University Program for the Study of Developed Shorelines, 2004).

Protecting developed, sheltered shores in the Mid-Atlantic is projected to cost between $3.0 billion (0.5 meter sea level rise) and $7.8 billion (1.0 meter sea level rise) through 2100. Elevating threatened roads and structures in the Mid-Atlantic is projected to cost between $16.4 billion (0.5-meter sea level rise) and $32.9 billion (1.0-meter sea level rise) through 2100 (Titus et al., "Greenhouse Effect and Sea Level Rise," 1991; all figures adjusted to 2007 dollars).

## Federal Standards Statement

Executive Order No. 27 (1994) and N.J.S.A. 52:14B-1 et seq. (P.L. 1995, c. 65) require State agencies that adopt, readopt or amend State regulations that exceed any Federal standards or requirements to include in the rulemaking document a Federal standards analysis.

The Department is proposing amendments and new rules for which there are no comparable rules or Federal standards. Accordingly, no Federal standards analysis is required.

## Jobs Impact

The Department anticipates, based on macroeconomic analysis conducted on behalf of the RGGI Staff Working Group, that the proposed amendments and new rules will have no net impact on employment in New Jersey. The macroeconomic modeling conducted on behalf of the RGGI Staff Working Group projected a very small negative impact on employment. However, the macroeconomic modeling did not assume that $CO_2$ allowance revenue would be reinvested in the deployment of energy efficiency technologies and measures. The projected employment impacts from the modeling are, therefore, considered by the Department to be a conservative estimate of the net employment impact of the proposed new rules.

If investment of $CO_2$ allowance revenue is considered, the proposed new rules could have a positive impact on employment in the State, through the investment of $CO_2$ allowance revenue to increase the deployment of energy efficiency technologies and measures. Deployment of energy efficiency technologies and measures is employment intensive, especially in well-paid technical and trades fields.

## Agriculture Industry Impact

The Department anticipates that the proposed amendments and new rules will have a positive impact on the agricultural industry in New Jersey by reducing emissions of $CO_2$ and, therefore, reducing atmospheric concentrations of greenhouse gases that are driving climate change. Climate change is projected to have significant impacts on the agricultural industry in New Jersey (Frumhoff et al., Confronting Climate Change in the U.S. Northeast, Northeast Climate Impacts Assessment (NECIA), Union of Concerned Scientists, 2007). In general, natural ecosystems, water supply, and agriculture are likely to be affected by warmer temperatures and associated changes in the water cycle.

Climate change is projected to lead to more intense rainfall events and a higher incidence of short-term drought. NECIA projects that under the higher-emissions scenario, the number of heavy precipitation events is expected to increase by 12 to 13 percent, relative to an eight percent increase under the lower-emissions scenario. Heavy rainstorms in the spring can delay planting, which may jeopardize framers profits, and may lead to flooding of fields, which can lead to crop losses and an increased susceptibility to root diseases. Short-term drought will likely increase the need for irrigation because higher temperatures increase transpiration. For high-value agricultural sectors such as tomatoes, changes in the rate of rainfall and transpiration due to climate change could have a significant adverse impact (Frumhoff et al., Confronting Climate Change in the U.S. Northeast, 2007).

Warmer temperatures may allow the northward spread of invasive weeds that already cause major crop losses in the Southern U.S., necessitating the increased use of pesticides and herbicides. There is also evidence that higher atmospheric concentrations of $CO_2$ reduce the effectiveness of widely used herbicides (Frumhoff et al., Confronting Climate Change in the U.S. Northeast, 2007).

New Jersey's climate is likely to become much less favorable to blueberry and cranberry growing by mid-century, as the long winter-chill periods necessary for these fruits to produce fruit shorten due to climate change. In 2005, New Jersey's blueberry crop was valued at $55 million, much of which was produced by small growers (Frumhoff et al., Confronting Climate Change in the U.S. Northeast, 2007).

Higher temperatures will also increase the formation of ground level ozone in the absence of more aggressive measures to reduce pollutant emissions that lead to ozone formation. Ozone leads to damage of the foliage of plants and trees, and interferes with a plant's ability to produce and store nutrients, which makes plants more susceptible to disease, insects, other pollutants, and harsh weather. According to the USEPA, this damage impacts annual crop production throughout the United States, resulting in significant losses, and injures native vegetation and ecosystems.

## Regulatory Flexibility Statement

As required by the New Jersey Regulatory Flexibility Act, N.J.S.A. 52:14B-16 et seq., the Department has evaluated the reporting, recordkeeping, and other compliance requirements that the proposed new rules and amendments would impose upon small businesses. The

Regulatory Flexibility Act defines the term "small business" as "any business which is a resident in this State, independently owned and operated and not dominant in its field, and which employs fewer than 100 full-time employees." Based upon this definition, the Department does not believe any of the large stationary combustion units impacted by these proposed rules are owned or operated by a small business, that is, they are all owned or operated by a business that employs 100 or more people full-time.

All of the units that will be subject to the $CO_2$ Budget Trading Program are also subject to the CAIR program (40 CFR Part 97 and N.J.A.C. 7:27-30). None of those units is owned or operated by a small business, that is, they are all owned or operated by a business that employs 100 or more employees full-time. Accordingly, no further analysis is required.

## Smart Growth Impact

Executive Order No. 4 (2002) requires State agencies that adopt, amend or repeal State regulations to include in the rulemaking document a Smart Growth Impact statement that describes the impact of the proposed rules on the achievement of smart growth and implementation of the State Development and Redevelopment Plan (State Plan).

The proposed amendments and new rules do not impact the State's official land use and development policies in a way that would either encourage or discourage any development or redevelopment in the State contrary to the guiding principles of the State Plan. As a result, the Department does not expect this rulemaking to have an impact on the State's achievement of smart growth, or implementation of the State Plan.

Insofar as the proposed amendments and new rules implement a program to reduce $CO_2$ emissions from large stationary combustion units, the proposed amendments and new rules support the State Plan’s goal of protecting the environment and preventing air pollution. By reducing $CO_2$ emissions from large stationary combustion units, and achieving related co-benefits of reduced emissions of other pollutants, the adverse impact of these units in growth areas is reduced, improving the air quality for those who live and work in these areas.

**Full text** of the proposal follows (additions indicated in boldface **thus**; deletions indicated in brackets **[**thus**]**):

## CHAPTER 27
## AIR POLLUTION CONTROL

### SUBCHAPTER 22 OPERATING PERMITS

**7:27-22.16 Operating permit contents**
(a)-(*l*) (No change.)

(m) **[**(Reserved)**]** **The operating permit shall contain all applicable requirements of the $CO_2$ budget trading program at N.J.A.C. 7:27C and 7:27-22.28. The operating permit shall contain sufficient monitoring, recordkeeping, and reporting requirements necessary to assure compliance with applicable requirements of the $CO_2$ budget trading program at N.J.A.C. 7:27C and 7:27-22.28.**

(n)- (t) (No change.)

**7:27-22.28 [**(Reserved)**]** **$CO_2$ budget trading program**
**(a) A permittee for a facility subject to N.J.A.C. 7:27C shall incorporate the requirements of the $CO_2$ budget trading program at N.J.A.C. 7:27C, as applicable, into the operating permit.**

**(b) A permittee for a facility subject to N.J.A.C. 7:27C shall incorporate the $CO_2$ budget trading program requirements into the operating permit for the facility through either:**
**1. An initial operating permit; or**
**2. A renewal or a minor modification of the operating permit.**

**(c) If any changes are made to any of the $CO_2$ budget trading program requirements at N.J.A.C. 7:27C that have been incorporated into an operating permit, the permittee for a facility subject to N.J.A.C. 7:27C shall reflect these changes through a renewal or minor modification of the operating permit.**

**(d) If any changes are made to equipment subject to the $CO_2$ budget trading program requirements at N.J.A.C. 7:27C, the permittee for a facility subject to N.J.A.C. 7:27C shall reflect these changes through a renewal or a minor modification of the operating permit.**

**(e) A permit shield pursuant to N.J.A.C. 7:27-17 shall apply to $CO_2$ budget trading program requirements only if the program is incorporated into the operating permit through an initial operating permit or an operating permit renewal.**

**(f) The $CO_2$ budget trading program requirements incorporated in the operating permit shall conform with the applicable provisions of N.J.A.C. 7:27C and this subchapter.**

**(g) The compliance plan for a facility subject to the $CO_2$ budget trading program requirements shall be included in the operating permit pursuant to N.J.A.C. 7:27-22.16(n) and meet the requirements for a proposed compliance plan at N.J.A.C. 7:27-22.9.**

**(h) If the Department approves the incorporation of $CO_2$ budget trading program requirements in an operating permit, the Department will establish permit conditions in the operating permit which will enable the Department to readily verify whether emissions from the source operations meet the requirements of N.J.A.C.7:27-27C. Such permit conditions will set forth replicable procedures, including monitoring, source emissions testing, recordkeeping, and reporting procedures, sufficient to ensure that emissions are quantified and recorded and that compliance with the emissions limitation under N.J.A.C. 7:27C is enforceable.**

## CHAPTER 27A
## AIR ADMINISTRATIVE PROCEDURES AND PENALTIES

### SUBCHAPTER 3. CIVIL ADMINISTRATIVE PENALTIES AND REQUESTS FOR ADJUDICATORY HEARINGS

**7:27A-3.2 Definitions**

The following words and terms, when used in this subchapter, have the following meanings unless the context clearly indicates otherwise. Unless otherwise specified below, all words and terms are as defined in N.J.S.A. 26:2C-2**, [**and in**]** N.J.A.C. 7:27 **and N.J.A.C. 7:27C**.

**7:27A-3.5 Civil administrative penalty determination—general**

(a) - (c) (No change.)

(d) The Department may assess a civil administrative penalty for a violation of any provision of N.J.A.C. 7:27 **or 7:27C** for which no penalty amount is specified under N.J.A.C. 7:27A-3.6 through 3.11. The Department shall base the amount of such a penalty assessment upon the following factors:

1. - 2. (No change.)

(e) - (h) (No change.)

**(i) For violations of N.J.A.C. 7:27C, indicated by a continuous monitoring system or when a continuous monitoring system operates out of control or is out of service, the Department shall calculate penalties in accordance with N.J.A.C. 7:27A-3.10(u).**

**7:27A-3.10 Civil administrative penalties for violation of rules adopted pursuant to the Act**

(a) - (t) (No change.)

**(u) The violations of N.J.A.C. 7:27C, whether the violation is minor or non-minor in**

**accordance with (q) through (t) above, and the civil administrative penalty amounts for each violation are as set forth in the following Civil Administrative Penalty Schedule. The numbers of the following paragraphs correspond to the numbers of the corresponding subchapter in N.J.A.C. 7:27C. The rule summaries (Class) for the requirements set forth in the Civil Administrative Penalty Schedule in this subsection are provided for informational purposes only and have no legal effect.**

## CIVIL ADMINISTRATIVE PENALTY SCHEDULE

**1. The violations of N.J.A.C. 7:27C-1, General Provisions, and the civil administrative penalty amounts for each violation are as set forth in the following table:**

| Citation | Class | Type of Violation | First Offense | Second Offense | Third Offense | Fourth and Each Subsequent Offense |
|---|---|---|---|---|---|---|
| N.J.A.C. 7:27C-1.3(e) | Submit an exemption report | M | $2,000 | $4,000 | $10,000 | $30,000 |
| N.J.A.C. 7:27C-1.3(f) | Retain exemption records | M | $2,000 | $4,000 | $10,000 | $30,000 |
| N.J.A.C. 7:27C-1.4(a) | Submit and obtain a Title V permit | NM | $10,000 | $20,000 | $50,000 | $50,000 |
| N.J.A.C. 7:27C-1.4(b) | Obtain a $CO_2$ budget permit | NM | $10,000 | $20,000 | $50,000 | $50,000 |
| N.J.A.C. 7:27C-1.4(c) | Monitoring requirements | NM | $10,000 | $20,000 | $50,000 | $50,000 |
| N.J.A.C. 7:27C-1.4(f) | Hold $CO_2$ allowances | NM | $10,000 | $20,000 | $50,000 | $50,000 |
| N.J.A.C. 7:27C-1.4(g) | Excess emissions in any control period | NM | $2,000 [1] | $4, 000 [1] | $10, 000 [1] | $30, 000 [1] |
| N.J.A.C. 7:27C-1.4(n) | Keep documents on site | M | $2,000 | $4,000 | $10,000 | $30,000 |
| N.J.A.C. 7:27C-1.4(o) | Submit a compliance certification report | M | $2,000 | $4,000 | $10,000 | $30,000 |

[1] For each ton of $CO_2$ emitted in excess of the $CO_2$ budget emissions limitation

**2. The violations of N.J.A.C. 7:27C-2, $CO_2$ Authorized Account Representative of a $CO_2$ Budget Source, and the civil administrative penalty amounts for each violation are as set forth in the following table:**

| Citation | Class | Type of Violation | First Offense | Second Offense | Third Offense | Fourth and Each Subsequent Offense |
|---|---|---|---|---|---|---|
| N.J.A.C. 7:27C-2.1(b) | Select a $CO_2$ authorized account representative | NM | $10,000 | $20,000 | $50,000 | $50,000 |
| N.J.A.C. 7:27C-2.1(f) | Submit a certified report | M | $2,000 | $4,000 | $10,000 | $30,000 |
| N.J.A.C. 7:27C-2.3(c) | Submit an account representative revision | M | $2,000 | $4,000 | $10,000 | $30,000 |

**3. (Reserved)**

**4. The violations of N.J.A.C. 7:27C-4, Compliance Certification, and the civil administrative penalty amounts for each violation are as set forth in the following table:**

| Citation | Class | Type of Violation | First Offense | Second Offense | Third Offense | Fourth and Each Subsequent Offense |
|---|---|---|---|---|---|---|
| N.J.A.C. 7:27C-4.1(a) | Submit a certified report | M | $2,000 | $4,000 | $10,000 | $30,000 |

**5. The violations of N.J.A.C. 7:27C-5, $CO_2$ Allowance Allocations, and the civil administrative penalty amounts for each violation are as set forth in the following table:**

| Citation | Class | Type of Violation | First Offense | Second Offense | Third Offense | Fourth and Each Subsequent Offense |
|---|---|---|---|---|---|---|
| N.J.A.C. 7:27C-5.2(c)2 | Establish a general account | M | $2,000 | $4,000 | $10,000 | $30,000 |

| | | | | | | |
|---|---|---|---|---|---|---|
| N.J.A.C. 7:27C-5.4(d) | Provide on-site access to records | M | $2,000 | $4,000 | $10,000 | $30,000 |
| N.J.A.C. 7:27C-5.4(d) | Provide false or misleading information | NM | $500,000[1] | Not Applicable[1] | Not Applicable[1] | Not Applicable[1] |
| N.J.A.C. 7:27C-5.12(g) | Provide false or misleading information | NM | $2,000 | $4,000 | $10,000 | $30,000 |

[1] The facility referenced in the sworn affidavit shall not be eligible to be certified as a dispatch agreement facility. In addition to these penalties, the court may assess against the violator the amount of any economic benefit accruing to the violator from the violation.

6. The violations of N.J.A.C. 7:27C-6, $CO_2$ Allowance Tracking System, and the civil administrative penalty amounts for each violation are as set forth in the following table:

| Citation | Class | Type of Violation | First Offense | Second Offense | Third Offense | Fourth and Each Subsequent Offense |
|---|---|---|---|---|---|---|
| N.J.A.C. 7:27C-6.5(d) | Submit a revised application | M | $2,000 | $4,000 | $10,000 | $30,000 |
| N.J.A.C. 7:27C-6.9(e) | Transfer required allowances | M | $2,000 | $4,000 | $10,000 | $30,000 |

7. (Reserved)

8. The violations of N.J.A.C. 7:27C-8, Monitoring and Reporting, and the civil administrative penalty amounts for each violation are as set forth in the following table:

| Citation | Class | Type of Violation | First Offense | Second Offense | Third Offense | Fourth and Each Subsequent Offense |
|---|---|---|---|---|---|---|
| N.J.A.C. 7:27C-8.1(a) and(d) | Monitoring requirements | NM | $10,000 | $20,000 | $50,000 | $50,000 |

| | | | | | | |
|---|---|---|---|---|---|---|
| N.J.A.C. 7:27C-8.1(e) and (f) | Monitor, record and report data | NM | $10,000 | $20,000 | $50,000 | $50,000 |
| N.J.A.C. 7:27C-8.2(g) | Submit dates of certification | M | $2,000 | $4,000 | $10,000 | $30,000 |
| N.J.A.C. 7:27C-8.2(h) | Submit certification application | M | $2,000 | $4,000 | $10,000 | $30,000 |
| N.J.A.C. 7:27C-8.2(o) | Substitute data | NM | $10,000 | $20,000 | $50,000 | $50,000 |
| N.J.A.C. 7:27C-8.2(q) | Alternate Monitoring system | NM | $10,000 | $20,000 | $50,000 | $50,000 |
| N.J.A.C. 7:27C-8.3(a) | Substitute data | NM | $10,000 | $20,000 | $50,000 | $50,000 |
| N.J.A.C. 7:27C-8.4 | Written notice | M | $2,000 | $4,000 | $10,000 | $30,000 |
| N.J.A.C. 7:27C-8.5(a), (b), (c) and (d) | Recordkeeping and reporting | M | $2,000 | $4,000 | $10,000 | $30,000 |
| N.J.A.C. 7:27C-8.7(a) and (b) | Submit report | M | $2,000 | $4,000 | $10,000 | $30,000 |
| N.J.A.C. 7:27C-8.8 (a), (b), (c), (d), (e) and (f) | Submit additional data | M | $2,000 | $4,000 | $10,000 | $30,000 |
| N.J.A.C. 7:27C-8.8(g) | Quality control activities | M | $2,000 | $4,000 | $10,000 | $30,000 |
| N.J.A.C. 7:27C-8.8(h) | Retain data | M | $2,000 | $4,000 | $10,000 | $30,000 |
| N.J.A.C. 7:27C-8.8(i) | Submit annual report | M | $2,000 | $4,000 | $10,000 | $30,000 |

**9. (Reserved)**

**10. The violations of N.J.A.C. 7:27C-10, $CO_2$ Emissions Offset Projects, and the civil administrative penalty amounts for each violation are as set forth in the following table:**

| Citation | Class | Type of Violation | First Offense | Second Offense | Third Offense | Fourth and Each Subsequent Offense |
|---|---|---|---|---|---|---|
| N.J.A.C. 7:27C-10.3(j) | Access agreement | M | $2,000 | $4,000 | $10,000 | $30,000 |
| N.J.A.C. 7:27C-10.11(e) | Submit monitoring and verification report | M | $2,000 | $4,000 | $10,000 | $30,000 |

## CHAPTER 27C
## $CO_2$ BUDGET TRADING PROGRAM

### SUBCHAPTER 1. GENERAL PROVISIONS

**7:27C-1.1 Purpose**

**This chapter establishes the New Jersey component of the $CO_2$ Budget Trading Program, which is designed to stabilize and then reduce anthropogenic emissions of $CO_2$, a greenhouse gas, from $CO_2$ budget sources in an economically efficient manner.**

**7:27C -1.2 Definitions**

**The following words and terms, when used in this chapter, have the following meanings, unless the context clearly indicates otherwise.**

**"Account number" means the identification number given by the Department to each $CO_2$ Allowance Tracking System account.**

**"Acid rain emissions limitation" means acid rain emissions limitation, as that term is defined by the EPA at 40 CFR 72.2, incorporated by reference herein.**

**"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, U.S.C. §§7651 et seq., and 40 CFR Parts 72 through 78.**

**"Administrator" means the Administrator of the EPA or the Administrator's authorized representative.**

**"Air contaminant" means any substance, other than water or distillates of air, present in the atmosphere as solid particles, liquid particles, vapors or gases.**

**"Allocate" or "allocation" means the determination by the Department of the number of $CO_2$ allowances to be recorded in the compliance account of a $CO_2$ budget unit, an allocation set-aside account, the consumer benefit account, or the general account of the sponsor of an approved $CO_2$ emissions offset project.**

**"Allocation year" means a calendar year for which the Department allocates or awards $CO_2$ allowances pursuant to N.J.A.C. 7:27C-5 and 10. The allocation year of each $CO_2$ allowance is reflected in the unique identification number given to the allowance pursuant to N.J.A.C. 7:27C-6.8(b) or (c).**

**"Alternate $CO_2$ authorized account representative" means, for a $CO_2$ budget source and each $CO_2$ budget unit at the source, the natural person who is authorized by the owners and operators of the source and all $CO_2$ budget units at the source, in accordance with N.J.A.C. 7:27C-2, to represent and legally bind each owner and operator in matters pertaining to the $CO_2$ Budget Trading Program or, for a general account, the natural person who is authorized, under N.J.A.C. 7:27C-6, to transfer or otherwise dispose of $CO_2$ allowances held in the general account.**

**"AP-42" means the January 1995, 5th edition of the manual entitled "Compilation of Air Pollutant Emission Factors," which is published by the EPA, including supplements A through G and any subsequent revisions, as amended and supplemented, incorporated herein by reference. The manual may be obtained from the National Technical Information Service (NTIS), 5285 Port Royal Road, Springfield, Virginia, 22161, (703) 487-4650; or from the Superintendent of Documents, Government Printing Office, Washington, D.C., 20402, (202) 783-3228. In addition, the manual can be accessed electronically through the EPA Technology Transfer Network CHIEF site at http://www.epa.gov/ttn/chief/ap42/index.html.**

**"Ascending price, multiple-round auction" means a multiple-round auction that starts with an opening price, which increases each round by predetermined increments. In each round, a bidder offers the quantity of $CO_2$ allowances the bidder is willing to purchase at the posted price. Rounds continue so long as demand exceeds the quantity of $CO_2$ allowances offered for sale. At the completion of the final round, $CO_2$ allowances may be awarded to remaining bidders at the final price or according to an alternative mechanism.**

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

**"Attribute credit" means a credit that represents the attributes related to one megawatt-hour of electricity generation.**

**"Automated data acquisition and handling system" or "DAHS" means that component of the continuous emissions monitoring system, or other emissions monitoring system**

**approved for use under N.J.A.C. 7:27C-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 N.J.A.C. 7:27C-8.**

**"Award" means the determination by the Department of the number of $CO_2$ allowances to be recorded in the compliance account of a $CO_2$ budget unit for early reduction $CO_2$ allowances pursuant to N.J.A.C. 7:27C-5.2(q), or the determination by the Department of the number of $CO_2$ offset allowances to be recorded in the general account of a project sponsor pursuant to N.J.A.C. 7:27C-10.11. An award is a type of allocation.**

**"Beneficial interest" means profit, benefit, or advantage resulting from the ownership of a $CO_2$ allowance.**

**"Bidder" means a qualified party that has met the requirements of N.J.A.C. 7:27C-5.10 through 5.13 and has received approval from the Department to participate in a specified $CO_2$ allowance auction pursuant to N.J.A.C. 7:27C-5.13(b).**

**"Billing meter" means the device used to measure electric or thermal output for commercial billing under a contract between the owner or owners of the facility selling the electric or thermal output and the owner or owners of the entity purchasing the electric or thermal output, where no owner of either the seller or the buyer also is an owner of the other party.**

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

**"Bottoming-cycle cogeneration unit" means a cogeneration unit in which the energy input to the unit is first used to produce useful thermal energy and at least some of the reject heat from the useful thermal energy application or process is then used for electricity production.**

**"British thermal unit" or "Btu" means the quantity of heat required to raise the temperature of one pound of water one degree Fahrenheit, at the temperature at which water has its greatest density (approximately 39 degrees Fahrenheit).**

**"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 $SO_2$ 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.**

**"Certified dispatch agreement facility" means a $CO_2$ budget source that is eligible to receive a fixed price sale offer of $CO_2$ allowances from the Department pursuant to N.J.A.C. 7:27C-5.4(c).**

**"$CH_4$" means methane.**

**"$CO_2$" means carbon dioxide.**

**"$CO_2$ allowance" means a limited authorization by the Department, or a participating state, under the $CO_2$ Budget Trading Program to emit up to one ton of $CO_2$, subject to all applicable limitations contained in this chapter.**

**"$CO_2$ allowance auction" means the sale of $CO_2$ allowances through competitive bidding as administered in accordance with N.J.A.C. 7:27C-5.5 through 5.18.**

**"$CO_2$ allowance auction website" means a website established by the Department that contains information about $CO_2$ allowance auctions.**

**"$CO_2$ allowance deduction" or "deduct $CO_2$ allowances" means the permanent withdrawal of $CO_2$ allowances by the Department from a compliance account to account for the number of tons of $CO_2$ emitted from a $CO_2$ budget source for a control period, determined in accordance with N.J.A.C. 7:27C-8, or for the forfeit or retirement of $CO_2$ allowances as provided by this chapter.**

**"$CO_2$ allowance price" means the price for $CO_2$ allowances in the $CO_2$ Budget Trading Program for a particular time period as determined by the Department, calculated based on a volume-weighted average of transaction prices reported to the Department, and taking into account prices as reported publicly through reputable sources.**

**"$CO_2$ allowances held" or "hold $CO_2$ allowances" means the $CO_2$ allowances recorded by the Department, or submitted to the Department for recordation, in accordance with N.J.A.C. 7:27C-6 and 7, in a $CO_2$ Allowance Tracking System account.**

**"$CO_2$ Allowance Tracking System" means the system by which the Department records allocations, deductions, and transfers of $CO_2$ allowances under the $CO_2$ Budget Trading Program. The tracking system may also be used to track $CO_2$ offset allowances, $CO_2$ allowance prices and emissions from affected sources.**

**"$CO_2$ Allowance Tracking System account" means an account in the $CO_2$ Allowance Tracking System established by the Department for purposes of recording the allocation, holding, transferring, or deducting of $CO_2$ allowances.**

**"$CO_2$ allowance transfer deadline" means midnight of the March 1 occurring after the end of the relevant control period or, if that March 1 is not a business day, midnight of the first business day thereafter, and also means the deadline by which $CO_2$ allowances shall be submitted for recordation in a $CO_2$ budget source's compliance account in order for the source to meet the $CO_2$ requirements of N.J.A.C. 7:27C -1.4 for the control period immediately preceding such deadline.**

**"$CO_2$ authorized account representative" means:**
**1. For a $CO_2$ budget source and each $CO_2$ budget unit at the source, the natural person who is authorized by the owners and operators of the source and all $CO_2$ budget units at the source, in accordance with N.J.A.C. 7:27C-2, to represent and legally bind each owner and operator in matters pertaining to the $CO_2$ Budget Trading Program; or**
**2. For a general account, the natural person who is authorized, under N.J.A.C. 7:27C-6, to transfer or otherwise dispose of $CO_2$ allowances held in the general account.**
**Except in N.J.A.C. 7:27C-2.2, 2.3, 2.4, 2.5, 2.6 and 6.3, whenever the term "$CO_2$ authorized account representative" is used in this chapter, it includes the alternate $CO_2$ authorized account representative.**

**"$CO_2$ budget emissions limitation" means, for a $CO_2$ budget source, the tonnage equivalent, in $CO_2$ emissions in a control period, of the $CO_2$ allowances available for compliance deduction for the source for a control period.**

**"$CO_2$ budget permit" means the portion of the legally binding permit issued by the Department pursuant to N.J.A.C. 7:27-22 to a $CO_2$ budget source or $CO_2$ budget unit that specifies the $CO_2$ Budget Trading Program requirements applicable to the $CO_2$ budget source, to each $CO_2$ budget unit at the $CO_2$ budget source, and to the owners and operators and the $CO_2$ authorized account representative of the $CO_2$ budget source and each $CO_2$ budget unit.**

**"$CO_2$ budget source" means a source that includes one or more $CO_2$ budget units.**

**"$CO_2$ Budget Trading Program" means a multi-state $CO_2$ air pollution control and emissions reduction program established pursuant to this chapter and corresponding rules and regulations in other participating states as a means of reducing emissions of $CO_2$ from $CO_2$ budget sources.**

**"$CO_2$ budget unit" means a fossil fuel-fired unit that at any time on or after January 1, 2005 served or serves an electricity generator with a nameplate capacity equal to or greater than 25 MWe.**

**"$CO_2$ equivalent" means the quantity of a given greenhouse gas multiplied by its global warming potential (GWP).**

**"$CO_2$ offset allowance" means a $CO_2$ allowance that is awarded to the sponsor of a $CO_2$ emissions offset project pursuant to N.J.A.C. 7:27C-10.11 and is subject to the relevant compliance deduction limitations of N.J.A.C. 7:27C-6.9(a)3.**

**"Cogeneration unit" means a stationary, fossil-fuel-fired boiler or stationary, fossil-fuel-fired combustion turbine:**

**1. Having equipment used to produce electricity and useful thermal energy for industrial, commercial, heating, or cooling purposes through the sequential use of energy; and**

**2. Producing electricity during the 12-month period starting on the date the unit first produces electricity, and producing, during any calendar year after the calendar year in which the unit first produces electricity, the following:**

**i. For a topping-cycle cogeneration unit, useful thermal energy not less than 5.0 percent of total energy output, and:**

**(1) Useful power that, when added to one-half of useful thermal energy produced, is not less then 42.5 percent of total energy input, if useful thermal energy produced is 15 percent or more of total energy output; or**

**(2) Useful power that, when added to one-half of useful thermal energy produced, is not less than 45 percent of total energy input, if useful thermal energy produced is less than 15 percent of total energy output;**

**ii. For a bottoming-cycle cogeneration unit, useful power that is not less than 45 percent of total energy input; and**

**3. Provided that if the cogeneration unit is a boiler, the total energy input at 2i and ii above is equal to the unit's total energy input from all fuel except biomass.**

**"Combined cycle system" means a system comprised of one or more of each of the following configured to improve overall efficiency of electricity generation or steam production:**

**1. Combustion turbine;**

**2. Heat recovery steam generator; and**

**3. Steam turbine.**

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

**"Commence commercial operation" means, with regard to a unit that serves a generator, to begin to produce steam, gas, or other heated medium used to generate electricity for sale or use, including test generation. For a unit that is a $CO_2$ budget unit on the date the unit commences commercial operation, such date shall remain the unit's date of commencement of commercial operation even if the unit is subsequently modified, reconstructed, or repowered. For a unit that is not a $CO_2$ budget unit on the date the unit commences commercial operation, the date the unit becomes a $CO_2$ budget unit shall be the unit's date of commencement of commercial operation, even if the unit is subsequently modified, reconstructed, or repowered.**

**"Commence operation" means to begin any mechanical, chemical, or electronic process including, with regard to a unit, start-up of a unit's combustion chamber. For a unit that is a $CO_2$ budget unit on the date of commencement of operation, such date shall remain the unit's date of commencement of operation, even if the unit is subsequently modified, reconstructed, or repowered. For a unit that is not a $CO_2$ budget unit on the date of commencement of operation, the date the unit becomes a $CO_2$ budget unit shall be the unit's date of commencement of operation, even if the unit is subsequently modified, reconstructed, or repowered.**

**"Compliance account" means a $CO_2$ Allowance Tracking System account, established by the Department for a $CO_2$ budget source under N.J.A.C. 7:27C-6, in which the $CO_2$ allowance allocations for the source are initially recorded and in which are held $CO_2$ allowances available for use by the source for a control period for the purpose of meeting the $CO_2$ requirements of N.J.A.C. 7:27C-1.5.**

**"Consumer benefit account" means a general account established by the Department from which $CO_2$ allowances will be sold or auctioned in order to provide moneys to promote energy efficiency; directly mitigate electricity ratepayer impacts attributable to the implementation of the $CO_2$ Budget Trading Program; develop and deliver renewable or non-carbon-emitting energy technologies; stimulate or reward investment in the development of innovative carbon emissions abatement technologies with significant carbon emissions reduction potential; fund programs that promote measurable end-use energy efficiency improvements in the commercial, institutional, and industrial sectors; or fund the administration of greenhouse gas emissions allowance trading programs or consumer benefit programs. Moneys collected through the sale or auction of $CO_2$ allowances in the consumer benefit account will be deposited in the Global Warming Solutions Fund established by the Department of the Treasury pursuant to N.J.S.A. 26:2C-50 and will be administered in accordance with N.J.S.A. 26:2C-51 and the Department's rules adopted pursuant to N.J.S.A. 26-2C-52.**

**"Consumer Price Index" or "CPI" means the U.S. Department of Labor, Bureau of Labor Statistics unadjusted Consumer Price Index for All Urban Consumers for the U.S. city average, for All Items on the latest reference base.**

**"Continuous emissions monitoring system" or "CEMS" means the equipment required under N.J.A.C. 7:27C-8 to sample, analyze, measure, and provide, by means of readings recorded at least once every 15 minutes (using an automated data acquisition and handling system), 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 N.J.A.C. 7:27C-8. The following are examples of the types of continuous emissions monitoring systems that may be used to comply with N.J.A.C. 7:27C-8. The following systems are examples of types of continuous emissions monitoring systems that may be required under N.J.A.C. 7:27C-8:**

**1. A flow-monitoring system, consisting of a stack flow rate monitor and an automated data acquisition and handling system and providing a permanent, continuous record of stack gas volumetric flow rate, in standard cubic feet per hour (scfh);**

**2. A nitrogen oxides emissions rate (or $NO_X$-diluent) monitoring system, consisting of a $NO_X$ pollutant concentration monitor, a diluent gas ($CO_2$ or $O_2$) monitor, and an automated data acquisition and handling system and providing a permanent, continuous record of $NO_X$ concentration, in parts per million (ppm), diluent gas concentration, in percent $CO_2$ or $O_2$, and $NO_X$ emissions rate, in pounds per million British thermal units (lb/MMBtu);**

**3. A moisture-monitoring system, as defined in 40 CFR 75.11(b)(2), incorporated by reference herein, and providing a permanent, continuous record of the stack gas moisture content, in percent $H_2O$;**

**4. A carbon dioxide-monitoring system, consisting of a $CO_2$ pollutant concentration monitor (or an oxygen monitor plus suitable mathematical equations from which the $CO_2$ concentration is derived) and an automated data acquisition and handling system and providing a permanent, continuous record of $CO_2$ emissions, in percent $CO_2$; and**

**5. An oxygen-monitoring system, consisting of an $O_2$ concentration monitor and an automated data acquisition and handling system and providing a permanent, continuous record of $O_2$, in percent $O_2$.**

**"Control area" means an independent system operator or regional transmission organization that includes a participating state in its operating territory.**

**"Control period" means a three-calendar-year time period, unless extended to four years upon occurrence of a stage-two trigger event. The first control period is January 1, 2009 through December 31, 2011, provided that if a stage-two trigger event occurs during the first control period, then the first control period will be extended by one year, through December 31, 2012. Each subsequent sequential three-calendar-year period is a separate control period that is subject to a single one-year extension upon the occurrence of a stage-two trigger event during the control period. In no event may a control period be longer than four calendar years.**

**"Current market price" means the volume-weighted average price of $CO_2$ allowances used in determining the current market reserve price, which is based on the following:**

**1. $CO_2$ allowance transaction prices reported to the Department;**

**2. $CO_2$ allowance prices as reported publicly through reputable sources;**

**3. $CO_2$ allowance award price(s) from previous $CO_2$ allowance auction(s); or**
**4. Any combination of 1 through 3 above.**

**"Current market reserve price" means the monetary amount calculated to be 80 percent of the current market price.**

**"Descending price, multiple-round auction" means a multiple-round auction that starts with a high provisional price, which falls in each round by predetermined increments. In each round, a bidder can lock in the purchase of some number of $CO_2$ allowances at the current provisional price and/or wait for the price to fall. Rounds continue so long as the number of $CO_2$ allowances locked-in is less than the quantity of $CO_2$ allowances offered for sale.**

**"Discriminatory price, sealed-bid auction" means a single-round, sealed-bid auction in which a bidder may submit multiple bids for $CO_2$ allowances at different prices. The price(s) paid by winning bidders with the highest bids for $CO_2$ allowances is their own bid price(s).**

**"Dispatch agreement facility" means a $CO_2$ budget source that meets the criteria at N.J.A.C. 7:27C-5.4(c).**

**"Distillates of air" means helium (He), nitrogen ($N_2$), oxygen ($O_2$), neon (Ne), argon (Ar), krypton (Kr), and xenon (Xe).**

**"Electronic submission agent" means a natural person to whom the $CO_2$ authorized account representative or alternate $CO_2$ authorized account representative has delegated the authority to make an electronic submission to the Department on his or her behalf.**

**"Eligible biomass" means the following sustainably harvested woody and herbaceous fuel sources, that are available on a renewable or recurring basis (excluding old-growth timber): dedicated energy crops and trees, agricultural food residues and feed crop residues, aquatic plants, unadulterated wood and wood residues, animal wastes, other clean organic wastes not mixed with other solid wastes, biogas, and other neat liquid biofuels derived from such fuel sources. Sustainably harvested will be determined by the Department, based on an evaluation of the environmental sustainability of harvesting practices applicable to the biomass feedstock, taking into consideration pest management, fertilizer and nutrient use, crop rotation practices, water use and pollution management, soil management, and forestry management.**

**"EPA" means the United States Environmental Protection Agency.**

**"ERAs" means early reduction $CO_2$ allowances.**

**"Excess emissions" means any tonnage of $CO_2$ emitted by a $CO_2$ budget source during a control period that exceeds the $CO_2$ budget emissions limitation for the source.**

**"Facility code" means a five-digit code assigned by the Energy Information Agency at the United States Department of Energy to power plants that are not owned by electric utilities.**

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

**"Fossil fuel-fired" means:**

**1. With regard to a unit that commenced 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; and**

**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 five percent of the annual heat input on a Btu basis during any year.**

**"General account" means a $CO_2$ Allowance Tracking System account established by the Department under N.J.A.C. 7:27C-6 for the purpose of holding and transferring $CO_2$ allowances, which is not a compliance account.**

**"Global warming potential" or "GWP" means a measure of the radiative efficiency (heat-absorbing ability) of a particular gas relative to that of $CO_2$ after taking into account the decay rate of each gas (the amount removed from the atmosphere over a given number of years) relative to that of $CO_2$.**

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

**"Hr" means hour.**

**"Lb" means pound.**

**"Life-of-the-unit contractual arrangement" means a unit participation power sales agreement under which a customer reserves, or is entitled to receive, a specified amount or percentage of nameplate capacity and/or associated energy from any specified unit for:**

**1. The life of the unit;**

**2. A cumulative term of no less than 25 years, including contracts that permit an election for early termination; or**

**3. A period equal to or greater than 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.**

**"Market settling period" means the first 14 months of any control period.**

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

**"Maximum potential hourly heat input" means an hourly heat input used for reporting purposes when a unit lacks certified monitors to report heat input. If Appendix D of 40 CRF Part 75 is used to report a unit's heat input, this is the value calculated, in accordance with 40 CFR Part 75, using the maximum fuel flow rate and the maximum gross calorific value. If a flow monitor and a diluent gas monitor are used for the unit, this is the value reported, in accordance with 40 CFR Part 75, using the maximum potential flowrate and either the maximum carbon dioxide concentration (in percent $CO_2$) or the minimum oxygen concentration (in percent $O_2$).**

**"Minimum reserve price" means the monetary amount of $1.86 in 2008 and 2009, and thereafter means the monetary amount, established as of the first day of each calendar year, as derived through the following formula:**
**MRP(2009+n) = MRP(2009+(n-1)) x [1+(CPI(2009+(n-1)) – CPI(2009+(n-2))/CPI(2009+(n-2))]**

**where:**
**MRP = the minimum reserve price**
**n = the number of years since 2009**
**"CPI" means, for any calendar year, the 12-month average of the CPI published by the United States Department of Labor, as of the close of the 12-month period ending on August 31 of each calendar year.**

**"Monitoring system" means any monitoring system that meets the requirements of N.J.A.C. 7:27C-8, including a continuous emissions monitoring system, an excepted monitoring system, or an alternative monitoring system.**

**"MMBtu" means million Btu.**

**"MWe" means megawatt electrical.**

**"MWh" means megawatt hours.**

**"New Jersey $CO_2$ Budget Trading Program Base Budget" means the annual number of $CO_2$ tons available in New Jersey for allocation in a given allocation year, in accordance with the $CO_2$ Budget Trading Program. $CO_2$ offset allowances awarded to project sponsors and early reduction $CO_2$ allowances awarded to $CO_2$ budget sources are separate from and in addition to $CO_2$ allowances allocated from the New Jersey $CO_2$ Budget Trading Program Base Budget.**

**"Nameplate capacity" means the maximum electrical output (in MWe) that a generator can sustain over a specified period of time, under specific conditions designated by the manufacturer, when not restricted by seasonal or other deratings.**

**"NYISO" means the New York independent system operator.**

**"Non-$CO_2$ budget unit" means a unit that does not meet the definition of "$CO_2$ budget unit."**

**"Notice of $CO_2$ allowance auction" means the notification for a specific auction or auctions issued pursuant to N.J.A.C. 7:27C-5.9.**

**"$O_2$" means oxygen.**

**"Operator" means any person who operates, controls, or supervises a $CO_2$ budget unit or a $CO_2$ budget source and includes, but is not limited to, any holding company, utility system, or plant manager of such a unit or source.**

**"ORIS code" means a four-digit number assigned by the Energy Information Agency at the United States Department of Energy to power plants owned by electric utilities.**

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

1. **Any holder of any portion of the legal or equitable title in a $CO_2$ budget unit;**
2. **Any holder of a leasehold interest in a $CO_2$ budget unit, other than a passive lessor, or a person who has an equitable interest through such lessor, whose rental payments are not based, either directly or indirectly, upon the revenues or income from the $CO_2$ budget unit;**
3. **Any purchaser of power from a $CO_2$ budget unit under a life-of-the-unit contractual arrangement in which the purchaser controls the dispatch of the unit; or**
4. **With respect to any general account, any person who has an ownership interest with respect to the $CO_2$ allowances held in the general account.**

**"Participating state" means a state or jurisdiction that has adopted corresponding rules or regulations as part of the $CO_2$ Budget Trading Program.**

**"Person" means any individual or entity and shall include, without limitation, corporations, companies, associations, societies, firms, partnerships, and joint stock companies, and shall also include, without limitation, all political subdivisions of this State or any agencies or instrumentalities thereof.**

**"PJM" means PJM Interconnection, a regional transmission organization.**

**"Qualified party" means a party that has submitted a qualification application pursuant to N.J.A.C. 7:27C-5.12(a) and that the Department determines to be qualified to participate in $CO_2$ allowance auctions pursuant to N.J.A.C. 7:27C-5.12(e).**

**"Receive" or "receipt of" means, when referring to the Department, 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 in the regular course of business.**

**"Recordation, record, or recorded" means, with regard to $CO_2$ allowances, the movement of $CO_2$ allowances by the Department from one $CO_2$ Allowance Tracking System account to another, for purposes of allocation, transfer, or deduction.**

**"Reserve price" means the minimum price that the Department will accept for each $CO_2$ allowance offered for sale in a specific $CO_2$ allowance auction.**

**"Serial number" means, when referring to $CO_2$ allowances, the unique identification number assigned to each $CO_2$ allowance by the Department under N.J.A.C. 7:27C-6.8(b) and (c).**

**"Source" means any governmental, institutional, commercial, or industrial structure, installation, plant, building, or facility that emits, or has the potential to emit, any air contaminant.**

**"Stage-one threshold price" means the monetary amount, established as of the first day of each calendar year, derived annually from use of the following formula:**

$$S1TP(2005+n) = S1TP(2005) \times [1+(CPI(2005+(n-1)) - CPI(2005))/CPI(2005)]$$

**where:**
**"S1TP" is the stage-one threshold price;**
**"S1TP(2005)" is $7:00;**
**"n" is the number of years since 2005; and**
**"CPI" means, for any calendar year, the 12-month average of the CPI published by the United States Department of Labor, as of the close of the 12-month period ending on August 31 of each calendar year.**

**"Stage-one trigger event" means the occurrence of any 12-month period that completely transpires following the market settling period that is characterized by an average $CO_2$ allowance price equal to or greater than the stage-one threshold price.**

**"Stage-two threshold price" means the monetary amount, established as of the first day of each calendar year, derived annually from use of the following formula:**

$$S2TP(2005+n) = [\ S2TP(2005+(n-1)) \times [|\{CPI(2005+(n-1)) - CPI(2005+(n-2))\}/CPI(2005+(n-2))|+0.02] + S2TP(2005+(n-1))$$

**where:**
**"S2TP" is the stage-two threshold price;**
**"S2TP(2005)" is $10.00; and**
**"n" is the number of years since 2005.**
**"CPI" means, for any calendar year, the 12-month average of the CPI published by the United States Department of Labor, as of the close of the 12-month period ending on August 31 of each calendar year.**

**"Stage-two trigger event" means the occurrence of any 12-month period that completely transpires following the market settling period that is characterized by an average $CO_2$ allowance price equal to or greater than the stage-two threshold price.**

**"State" means a state of the United States of America, 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" means to send or transmit a document, information, or correspondence to the person specified in accordance with the applicable regulation in the following manner:**
**1. In person;**
**2. By United States Postal Service; or**
**3. By other commonly accepted 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" means a short ton, that is, 2,000 pounds.**

**"Topping-cycle cogeneration unit" means a cogeneration unit in which the energy input to the unit is first used to produce useful power, including electricity, and at least some of the reject heat from the electricity production is then used to provide useful thermal energy.**

**"Total energy input" means, with regard to a cogeneration unit, total energy of all forms supplied to the cogeneration unit, excluding energy produced by the cogeneration unit itself, where each form of energy supplied is measured by the lower heating value of that form of energy, calculated as follows:**

**LHV = HHV−10.55(W + 9H)**
**where:**
**LHV = lower heating value of fuel in Btu/lb,**
**HHV = higher heating value of fuel in Btu/lb,**
**W = weight, by percent, of moisture in fuel, and**
**H = weight, by percent, of hydrogen in fuel.**

**"Total energy output" means, with regard to a cogeneration unit, the sum of useful power and useful thermal energy produced by the cogeneration unit.**

**"12-month period" means a period of 12 consecutive months determined on a rolling basis where a new 12-month period begins on the first day of each calendar month.**

**"Uniform-price, sealed-bid auction" means a single-round, sealed-bid auction in which a bidder may submit multiple bids at different prices. The price paid by bidders with winning bids for $CO_2$ allowances is equal to the price of the highest rejected bid.**

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

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

**"Unsold allowance" means a $CO_2$ allowance that has been made available for sale in an auction conducted by the Department, but is not sold in such auction.**

**"Useful power" means, with regard to a cogeneration unit, electricity or mechanical energy made available for use, excluding any such energy used in the power production process (which process includes, but is not limited to, any on-site processing or treatment of fuel combusted at the unit and any on-site emission controls).**

**"Useful thermal energy" means with regard to a cogeneration unit, thermal energy that is:**

**1. Made available to an industrial or commercial process (not a power production process), excluding any heat contained in condensate return or makeup water;**
**2. Used in a heating application (for example, space heating or domestic hot water heating); or**
**3.Used in a space cooling application (that is, thermal energy used by an absorption chiller).**

**"Voluntary renewable energy market account" means an account into which the Department will allocate one percent of the $CO_2$ allowances for each allocation year from the New Jersey $CO_2$ Budget Trading Program annual base budget and manage to support the functioning of the voluntary renewable energy market.**

**"Voluntary renewable energy purchase" means a purchase of electricity from renewable energy generation or a purchase of renewable energy attribute credits, by a retail electricity customer on a voluntary basis. Renewable energy includes electricity generated from biomass, wind, solar thermal, photovoltaic, geothermal, hydroelectric facilities certified by the Low Impact Hydropower Institute, wave and tidal action, and fuel cells powered by renewable fuels. A voluntary renewable energy purchase does not include the purchase of any renewable energy generation or the purchase of any renewable energy attribute credits used by the generator or purchaser to meet any regulatory mandate, such as a renewable portfolio standard.**

**7:27C-1.3 Applicability**

**(a) The requirements of this chapter apply to any $CO_2$ budget unit or $CO_2$ budget source.**

**(b) Notwithstanding (a) above, a $CO_2$ budget unit that has a permit containing a condition restricting the supply of the unit's annual electrical output to the electric grid to no more than 10 percent of the annual gross generation of the unit, and which complies with (d) through (i) below, is exempt from the requirements of this chapter, except for the provisions of this section, N.J.A.C. 7:27C-1.6 and N.J.A.C. 7:27C-8.8, and, if applicable because of the award or allocation of $CO_2$ allowances during the pre-exemption time period, N.J.A.C. 7:27C-5 through 7.**

**(c) The exemption under (b) above shall become effective as of the January 1 that is on or after the date on which the restriction on the percentage of annual gross generation that may be supplied to the electric grid and the provisions in the permit required at (b) above become final.**

**(d) A $CO_2$ budget unit exempt under (b) above shall comply with the restriction on percentage of annual gross generation that may be supplied to the electric grid described in (b) above.**

**(e) A $CO_2$ budget unit exempt under (b) above shall report to the Department, in accordance with the applicable provisions at N.J.A.C. 7:27C-8.8, the amount of annual gross generation and the amount of annual gross generation supplied to the electric grid during the year by the following February 1.**

**(f) For a period of 10 years from the date the records are created, the owners and operators of a unit exempt under (b) above shall retain, at the source that includes the unit, records demonstrating that the conditions of the permit under (b) were met. The 10-year period for keeping records may be extended for cause, at any time prior to the end of the period, in writing by the Department. The owners and operators bear the burden of proof that the unit met the restriction on the percentage of annual gross generation that may be supplied to the electric grid.**

**(g) The owners and operators and, to the extent applicable, the $CO_2$ authorized account representative of a $CO_2$ budget unit exempt under (b) above shall comply with all the requirements of this chapter concerning all time periods for which the exemption is not in effect, even if such requirements arise, or must be complied with, after the exemption takes effect.**

**(h) A $CO_2$ budget unit exempt under (b) above will lose its exemption upon the occurrence of either of the following:**

**1. The restriction on the percentage of annual gross generation that may be supplied to the electric grid described in (b) above is removed from the unit's permit or otherwise becomes no longer applicable in any year that commences on or after January 1, 2009; or**

**2. The unit fails to comply or the owners and operators fail to meet their burden of proving that the unit is complying with the restriction on the percentage of annual gross generation that may be supplied to the electric grid described in (b) above during any year that commences on or after January 1, 2009.**

**(i) A unit that loses its exemption in accordance with (h) above shall be subject to the requirements of this chapter. For the purposes of this chapter, the date of commencement of operation for a unit that loses its exemption pursuant to (h) above will be the date the unit loses its exemption.**

**(j) In the event that the Department grants an exemption under this section to one or more units that on January 1, 2005, serves an electricity generator with a nameplate capacity equal to or greater than 25 MWe, the Department will retire for each subsequent allocation year the number of $CO_2$ allowances equal to the unit's average annual $CO_2$ emissions over the most recent three calendar years for which data are available.**

**7:27C-1.4 General provisions**

**(a) The $CO_2$ authorized account representative of each $CO_2$ budget source required to have an operating permit pursuant to N.J.A.C. 7:27-22 and each $CO_2$ budget unit required to have an operating permit pursuant to N.J.A.C. 7:27-22 shall:**

**1. Submit to the Department a complete application for a new or modified operating permit under N.J.A.C. 7:27C-3.3 in accordance with the deadlines specified in N.J.A.C. 7:27C-3.2; and**

**2. Submit in a timely manner any supplemental information that the Department determines is necessary in order to review the operating permit application and issue or deny an operating permit or a permit modification that includes $CO_2$ Budget Trading Program requirements.**

**(b) The owners and operators of each $CO_2$ budget source required to have an operating permit pursuant to N.J.A.C. 7:27-22 and of each $CO_2$ budget unit required to have an operating permit pursuant to N.J.A.C. 7:27-22 for the source shall have an operating permit that incorporates the requirements of the $CO_2$ budget trading program and shall operate the $CO_2$ budget source and the $CO_2$ budget unit at the source in compliance with such operating permit.**

**(c) The owners and operators and, to the extent applicable, the $CO_2$ authorized account representative of each $CO_2$ budget source and each $CO_2$ budget unit at the source shall comply with the monitoring requirements of N.J.A.C. 7:27C-8.**

**(d) The Department will use the emissions measurements recorded and reported in accordance with N.J.A.C. 7:27C-8 to determine compliance by the unit with the $CO_2$ requirements at (e) below. For the purpose of determining compliance with (f) below, total tons for a 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 N.J.A.C.**

**7:27C-8. The Department will round total $CO_2$ emissions to the nearest whole ton, so that any fraction of a ton equal to or greater than 0.50 tons is deemed to equal one ton and any fraction of a ton less than 0.50 tons is deemed to equal zero tons.**

**(e) A $CO_2$ budget unit shall be subject to the requirements at (f) below starting on January 1, 2009, or the date on which the unit commences operation, whichever comes later.**

**(f) The owners and operators of each $CO_2$ budget source and each $CO_2$ budget unit at the source shall hold $CO_2$ allowances available for compliance deductions under N.J.A.C. 7:27C-6.9, as of the $CO_2$ allowance transfer deadline, in the source's compliance account in an amount not less than the total $CO_2$ emissions for the control period from all $CO_2$ budget units at the source, as determined in accordance with N.J.A.C. 7:27C-6 and 8.**

**(g) Each ton of $CO_2$ emitted in excess of the $CO_2$ budget emissions limitation shall constitute a separate violation of this subchapter and applicable State law.**

**(h) $CO_2$ allowances shall be held in, deducted from, or transferred among $CO_2$ Allowance Tracking System accounts in accordance with N.J.A.C. 7:27C-5, 6 and 7.**

**(i) A $CO_2$ allowance shall not be deducted, in order to comply with (f) above, for a control period that ends prior to the year for which the $CO_2$ allowance was allocated.**

**(j) A $CO_2$ offset allowance shall not be deducted, in order to comply with (f) above, beyond the applicable percent limitations at N.J.A.C. 7:27C-6.9(a)3.**

**(k) A $CO_2$ allowance is a limited authorization by the Department or a participating state to emit one ton of $CO_2$ in accordance with this chapter. No provision of the $CO_2$ Budget Trading Program, this chapter, the application for a new or modified operating permit to incorporate the requirements of the $CO_2$ Budget Trading Program, or the operating permit that includes the requirements of the $CO_2$ Budget Trading Program shall be construed to limit the authority of the Department or a participating state to terminate or limit such authorization.**

**(*l*) A $CO_2$ allowance does not constitute a property right.**

**(m) The owners and operators of a $CO_2$ budget source that has excess emissions in any control period shall:**

**1. Forfeit the $CO_2$ allowances required for deduction under N.J.A.C. 7:27C-6.9(e);**
**2. Not use any $CO_2$ offset allowances to cover any part of such excess emissions; and**
**3. Pay any fine, penalty, or assessment or comply with any other remedy imposed under N.J.A.C. 7:27C-6.9(f).**

**(n) Except as provided at (n)1 below, the owners and operators of the $CO_2$ budget source and each $CO_2$ 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. The**

**Department may at any time prior to the end of the 10-year period extend the 10-year period, if it determines that retention of the documents beyond the 10-year period is necessary to determine compliance with the requirements of this chapter:**

**1. The account certificate of representation for the $CO_2$ authorized account representative for the $CO_2$ budget source and each $CO_2$ budget unit at the source and all documents that demonstrate the truth of the statements in the account certificate of representation, in accordance with N.J.A.C. 7:27C-2.4, provided that the certificate and documents shall be retained on site at the source beyond such 10-year period until such documents are superseded by a submitted new account certificate of representation changing the $CO_2$ authorized account representative of the $CO_2$ budget source;**

**2. All emissions monitoring information, in accordance with N.J.A.C. 7:27C-8;**

**3. Copies of all reports, compliance certifications, and other submissions, and all records made or required under the $CO_2$ Budget Trading Program; and**

**4. Copies of all documents used to complete an application for a new or modified operating permit that incorporates the requirements of the $CO_2$ Budget Trading Program and any other submission under the $CO_2$ Budget Trading Program or to demonstrate compliance with the requirements of the $CO_2$ Budget Trading Program.**

**(*o*) The $CO_2$ authorized account representative of a $CO_2$ budget source and each $CO_2$ budget unit at the source shall submit the reports and compliance certifications required under this chapter, including the requirements at N.J.A.C. 7:27C-4.**

**(p) A violation of the requirements of this chapter cannot be cured by a revision to the operating permit of a $CO_2$ budget source if that revision is effective after the violation occurs.**

**(q) Each provision of this chapter that applies to a $CO_2$ budget source or to the $CO_2$ authorized account representative of the $CO_2$ budget source also applies to the owners and operators of such source and of the $CO_2$ budget units at the source.**

**(r) Each provision of this chapter that applies to a $CO_2$ budget unit or to the $CO_2$ authorized account representative of the $CO_2$ budget unit also applies to the owners and operators of such unit.**

**(s) No provision of the $CO_2$ Budget Trading Program, this chapter, the application for a new or modified operating permit to incorporate the requirements of the $CO_2$ Budget Trading Program, or the operating permit that includes the requirements of the $CO_2$ Budget Trading Program , shall be construed as exempting or excluding the owners and operators and, to the extent applicable, the $CO_2$ authorized account representative of a $CO_2$ budget source or $CO_2$ budget unit from compliance with any other provisions of applicable State and Federal law and regulations.**

**7:27C-1.5 Computation of time**

**(a) Unless otherwise stated, any time period scheduled, pursuant to this chapter, to begin on the occurrence of an act or event shall begin on the day the act or event occurs.**

**(b) Unless otherwise stated, any time period scheduled, pursuant to this chapter, 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.**

**(c) Unless otherwise stated, if the final day of any time period, pursuant to this chapter, falls on a weekend or a State or Federal holiday, the time period shall be extended to the next business day.**

**7:27C-1.6 Appeal procedure**

**(a) A person who believes himself or herself to be aggrieved with respect to a decision made by the Department may appeal the decision within 20 calendar days after the date of the decision and request an administrative hearing.**

**(b) Requests for an administrative hearing shall be submitted to:**

**Office of Legal Affairs**
**ATTENTION: Adjudicatory Hearing Requests**
**Department of Environmental Protection**
**401 East State Street, 4th Floor**
**PO Box 402**
**Trenton, New Jersey 08625-0402**

**(c) All requests for an administrative hearing shall be submitted to the Department in writing on a hearing request form available from the Department and shall contain:**

**1. The name, address, and telephone number of the person making the request;**
**2. When the request is submitted by someone other than the applicant, evidence that a copy of the hearing request has been mailed to the applicant;**
**3. A statement of the legal authority and jurisdiction under which the request for a hearing is made;**
**4. A brief and clear statement of the Department decision being appealed, indicating the specific grounds for the applicant's appeal;**
**5. A copy of the Department notice or decision for which a hearing is being requested;**
**6. A statement of all facts alleged to be at issue and their relevance to the Department decision for which a hearing is requested. Any legal issues associated with the alleged facts at issue shall also be included; and**

**7. All information supporting the request or other written documents relied upon to support the request, unless this information is already in the administrative record (in which case, such information shall be specifically referenced in the request).**

**(d) The Department will deny any hearing request it did not receive within 20 calendar days after the date of the Department decision being appealed.**

**(e) The Department may deny any hearing request if the applicant or interested party fails to include all the information required by (c) above.**

**(f) Following receipt of a complete request for a hearing pursuant to (c) above, the Department may attempt to informally settle the dispute by conducting such proceedings, meetings, and conferences as it deems appropriate.**

**(g) If the Department determines that the matter is a contested case, the Department will submit the request for an administrative hearing to the Office of Administrative Law. Such hearings will be conducted in accordance with the provisions of the Administrative Procedure Act, N.J.S.A. 52:14B-1 et seq. and 14F-1 et seq. and the Uniform Administrative Procedure Rules, N.J.A.C. 1:1. In making such determination, the Department will evaluate the request to determine whether a contested case exists and whether there are issues of fact, which, if assumed to be true, might change the Department's decision. Where only issues of law are raised by a request for a hearing, the request will be denied. Denial by the Department of a request for a contested case hearing shall constitute the final decision of the Department for the purposes of judicial appeal.**

**(h) Nothing in this section shall be construed to provide a right to an adjudicatory hearing in contravention of N.J.S.A. 52:14B-3.1 through 3.3.**

**(i) As part of a request for an adjudicatory hearing, a person may request that the Department determine whether the matter for which the adjudicatory hearing is requested is suitable for mediation by the Department's Office of Dispute Resolution. The Department shall promptly notify the requester of its determination. If the Department determines the matter is suitable for mediation, it shall also notify the requester of the procedures and schedule for mediation.**

**(j) At the conclusion of any adjudicatory hearing in the Office of Administrative Law, the administrative law judge will submit an initial decision to the Commissioner. The Commissioner will issue a final decision affirming, rejecting, or modifying the findings of fact and conclusions of law in the Initial Decision, in accordance with the Administrative Procedure Act, N.J.S.A. 52:14B-1 et seq., and the Uniform Administrative Procedure Rules, N.J.A.C. 1:1.**

**(k) The Commissioner's final decision under (j) above may be appealed to the Appellate Division of the Superior Court, within the time provided by court rule.**

**7:27C-1.7 Severability**

**If any provision of this chapter or the application thereof to any person or circumstance is adjudicated to be invalid or unenforceable to any extent, the remainder of this chapter or its application to any person or circumstance other than those that are the subject of the adjudication shall continue to be unaffected by the adjudication.**

## SUBCHAPTER 2 $CO_2$ AUTHORIZED ACCOUNT REPRESENTATIVE OF A $CO_2$ BUDGET SOURCE

**7:27C-2.1 Authorization and responsibilities of the $CO_2$ authorized account representative of a $CO_2$ budget source**

**(a) Except as provided under N.J.A.C. 7:27C-2.2, each $CO_2$ budget source, including all $CO_2$ budget units at the source, shall have one and only one $CO_2$ authorized account representative, with regard to all matters regulated by this chapter concerning the source or any $CO_2$ budget unit at the source.**

**(b) The $CO_2$ authorized account representative of the $CO_2$ budget source shall be selected pursuant to an agreement binding on the owners and operators of the source and all $CO_2$ budget units at the source.**

**(c) If the $CO_2$ budget source is also subject to the CAIR $NO_x$ Ozone Season Trading Program, CAIR $NO_x$ Annual Trading Program, or CAIR $SO_2$ Trading Program, then the $CO_2$ authorized account representative of the $CO_2$ budget source shall be the same as the CAIR designated representative. If the $CO_2$ budget source is also subject to the Acid Rain Program, then the $CO_2$ authorized account representative shall be the same as the Acid Rain Program designated representative.**

**(d) Upon receipt by the Department of a complete account certificate of representation under N.J.A.C. 7:27C-2.4, the $CO_2$ authorized account representative of the $CO_2$ budget source shall represent and, by his or her representations, actions, inactions, or submissions, legally bind each owner and operator of the $CO_2$ budget source represented and each $CO_2$ budget unit at the source in all matters pertaining to the $CO_2$ Budget Trading Program, notwithstanding any agreement between the $CO_2$ authorized account representative of the $CO_2$ budget source and such owners and operators. The owners and operators shall be bound by any decision or order regarding the source or unit issued to the $CO_2$ authorized**

**account representative of the $CO_2$ budget source by the Department or a court of competent jurisdiction.**

**(e) The Department will issue an operating permit that incorporates the requirements of the $CO_2$ Budget Trading Program and establish a $CO_2$ Allowance Tracking System account for a $CO_2$ budget source only after it has received a complete account certificate of representation that complies with N.J.A.C. 7:27C-2.4 for a $CO_2$ authorized account representative of the $CO_2$ budget source and the $CO_2$ budget units at the source.**

**(f) Each submission under the $CO_2$ Budget Trading Program shall be submitted, signed, and certified by the $CO_2$ authorized account representative for each $CO_2$ budget source on behalf of which the submission is made. Each such submission shall include the following certification by the $CO_2$ authorized account representative of the $CO_2$ budget source: "I am authorized to make this submission on behalf of the owners and operators of the $CO_2$ budget sources or $CO_2$ 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."**

**(g) The Department will accept or act on a submission made on behalf of owners or operators of a $CO_2$ budget source or a $CO_2$ budget unit only if the submission has been made, signed, and certified in accordance with (f) above.**

**7:27C-2.2 Alternate $CO_2$ authorized account representative of the $CO_2$ budget source**

**(a) An account certificate of representation may designate one and only one alternate $CO_2$ authorized account representative of the $CO_2$ budget source who may act on behalf of the $CO_2$ authorized account representative of the $CO_2$ budget source.**

**(b) The agreement by which the alternate $CO_2$ authorized account representative is selected shall include a procedure for authorizing the alternate $CO_2$ authorized account representative of the $CO_2$ budget source to act in lieu of the $CO_2$ authorized account representative of the $CO_2$ budget source.**

**(c) Upon receipt by the Department of a complete account certificate of representation under N.J.A.C. 7:27C-2.4, any representation, action, inaction, or submission by the alternate $CO_2$ authorized account representative of the $CO_2$ budget source will be deemed**

**to be a representation, action, inaction, or submission by the $CO_2$ authorized account representative of the $CO_2$ budget source.**

**7:27C-2.3 Changing the $CO_2$ authorized account representative of the $CO_2$ budget source and the alternate $CO_2$ authorized account representative of the $CO_2$ budget source; changes in the owners and operators**

**(a) The $CO_2$ authorized account representative of the $CO_2$ budget source (or the alternate $CO_2$ authorized account representative of the $CO_2$ budget source) may be changed at any time by submitting a superseding complete account certificate of representation to the Department, pursuant to N.J.A.C. 7:27C-2.4. The change in the $CO_2$ authorized account representative of the $CO_2$ budget source or the alternate $CO_2$ authorized account representative of the $CO_2$ budget source is effective upon receipt by the Department of the superseding complete account certificate of representation.**
**Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous $CO_2$ authorized account representative of the $CO_2$ budget source or alternate $CO_2$ authorized account representative of the $CO_2$ budget source prior to the time and date that the Department receives the superseding account certificate of representation shall be binding on the new $CO_2$ authorized account representative of the $CO_2$ budget source and the new alternate $CO_2$ authorized account representative of the $CO_2$ budget source and the owners and operators of the $CO_2$ budget source and the $CO_2$ budget units at the source.**

**(b) In the event a new owner or operator of a $CO_2$ budget source or a $CO_2$ budget unit is not included in the list of owners and operators submitted in the account certificate of representation, such new owner or operator is subject to and bound by the account certificate of representation, the representations, actions, inactions, and submissions of the $CO_2$ authorized account representative and any alternate $CO_2$ authorized account representative of the $CO_2$ budget source or $CO_2$ budget unit, and the decisions, orders, actions, and inactions of the Department, as if the new owner or operator were included in such list.**

**(c) Within 30 days following any change in the owners and operators of a $CO_2$ budget source or a $CO_2$ budget unit, including the addition of a new owner or operator, the $CO_2$ authorized account representative of the $CO_2$ budget source or alternate $CO_2$ authorized account representative of the $CO_2$ budget source shall submit a revision to the account certificate of representation amending the list of owners and operators to include the change.**

**7:27C-2.4 Account certificate of representation**

**(a) A complete account certificate of representation for a $CO_2$ authorized account representative or an alternate $CO_2$ authorized account representative for a $CO_2$ budget source shall include the following elements in a format prescribed by the Department:**

**1. Identification of the $CO_2$ budget source and each $CO_2$ budget unit at the source for which the account certificate of representation is submitted;**

**2. The name, address, e-mail address, telephone number, and facsimile transmission number of the $CO_2$ authorized account representative of the $CO_2$ budget source and any alternate $CO_2$ authorized account representative of the $CO_2$ budget source;**

**3. A list of the owners and operators of the $CO_2$ budget source and of each $CO_2$ budget unit at the source;**

**4. The following certification by the $CO_2$ authorized account representative of the $CO_2$ budget source and any alternate $CO_2$ authorized account representative of the $CO_2$ budget source: "I certify that I was selected as the $CO_2$ authorized account representative of the $CO_2$ budget source (or alternate $CO_2$ authorized account representative of the $CO_2$ budget source, as applicable) by an agreement binding on the owners and operators of the $CO_2$ budget source and each $CO_2$ budget unit at the source. I certify that I have all the necessary authority to carry out my duties and responsibilities under the $CO_2$ Budget Trading Program on behalf of the owners and operators of the $CO_2$ budget source and of each $CO_2$ 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 of competent jurisdiction regarding the source or unit."; and**

**5. The signature of the $CO_2$ authorized account representative of the $CO_2$ budget source and any alternate $CO_2$ authorized account representative of the $CO_2$ budget source, and the dates signed.**

**(b) Unless otherwise required by the Department, documents of agreement referred to in the account certificate of representation shall not be submitted to the Department. The Department will not be under any obligation to review or evaluate the sufficiency of such documents, if submitted.**

**7:27C-2.5 Objections concerning the $CO_2$ authorized account representative of the $CO_2$ budget source or alternate $CO_2$ authorized account representative of the $CO_2$ budget source**

**(a) Once the Department has received a complete account certificate of representation under N.J.A.C. 7:27C-2.4, the Department will rely on the account certificate of representation, unless and until the Department receives a superseding complete account certificate of representation under N.J.A.C. 7:27C-2.4.**

**(b) Except as provided in N.J.A.C. 7:27C-2.3(a), no objection or other communication submitted to the Department concerning the authorization, or any representation, action,**

**inaction, or submission of the $CO_2$ authorized account representative of the $CO_2$ budget source or the alternate $CO_2$ authorized account representative of the $CO_2$ budget source, will affect any representation, action, inaction, or submission of the $CO_2$ authorized account representative of the $CO_2$ budget source or the alternate $CO_2$ authorized account representative of the $CO_2$ budget source, or the finality of any decision or order by the Department under the $CO_2$ Budget Trading Program.**

**(c) The Department will not decide or otherwise intervene in any dispute concerning the authorization of, or any representation, action, inaction, or submission by any $CO_2$ authorized account representative of a $CO_2$ budget source or an alternate $CO_2$ authorized account representative of a $CO_2$ budget source, including private legal disputes concerning the proceeds of $CO_2$ allowance transfers.**

**7:27C-2.6 Delegation of authority to make electronic submissions by the $CO_2$ authorized account representative of the $CO_2$ budget source and the alternate $CO_2$ authorized account representative of the $CO_2$ budget source**

**(a) The $CO_2$ authorized account representative of a $CO_2$ budget source and the alternate $CO_2$ authorized account representative of a $CO_2$ budget source may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Department under this chapter.**

**(b) To delegate authority to make an electronic submission to the Department a $CO_2$ authorized account representative of a $CO_2$ budget source or alternate $CO_2$ authorized account representative of a $CO_2$ budget source, as appropriate, shall submit to the Department a notice of delegation, in a format prescribed by the Department, that includes the following elements:**

**1. The name, address, e-mail address, telephone number, and facsimile transmission number of the delegating $CO_2$ authorized account representative or alternate $CO_2$ authorized account representative;**

**2. The name, address, e-mail address, telephone number, and facsimile transmission number of each such natural person, herein referred to as the "electronic submission agent";**

**3. For each such natural person, a list of the types of electronic submissions under (a) above for which authority is delegated to him or her; and**

**4. The following certifications by the delegating $CO_2$ authorized account representative or the delegating alternate $CO_2$ authorized account representative, as appropriate:**

**"I agree that any electronic submission to the Department that is by the natural person identified in this notice of delegation and of a type listed for such electronic submission agent in this notice of delegation and that is made when I am a $CO_2$ authorized account representative (or alternate $CO_2$ authorized account representative, as appropriate,) and before this notice of delegation is superseded by**

**another notice of delegation under N.J.A.C. 7:27C-2.6(c) shall be deemed to be an electronic submission by me;" and**

**"Until this notice of delegation is superseded by another notice of delegation under N.J.A.C. 7:27C-2.6(c), I agree to maintain an e-mail account and to notify the Department immediately of any change in my e-mail address unless all delegation authority by me under N.J.A.C. 7:27C-2.6 is terminated."**

**(c) A notice of delegation submitted under (b) above shall be effective, with regard to the delegating $CO_2$ authorized account representative for the $CO_2$ budget source or the delegating alternate $CO_2$ authorized account representative for the $CO_2$ budget source identified in such notice, upon receipt of such notice by the Department and until receipt by the Department of a superseding notice of delegation by such $CO_2$ authorized account representative or alternate $CO_2$ 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.**

**(d) Any electronic submission covered by the certification in (b)4 above and made in accordance with a notice of delegation effective under (b) above shall be deemed to be an electronic submission by the $CO_2$ authorized account representative of the $CO_2$ budget source or alternate $CO_2$ authorized account representative of the $CO_2$ budget source submitting such notice of delegation.**

## SUBCHAPTER 3. PERMITS

### 7:27C-3.1 General requirements for an operating permit incorporating $CO_2$ Budget Trading Program requirements

**(a) Each $CO_2$ budget source must have an operating permit issued by the Department pursuant to N.J.A.C. 7:27-22.**

**(b) The operating permit for each $CO_2$ budget source shall contain all applicable $CO_2$ Budget Trading Program requirements, as set forth in N.J.A.C. 7:27C-3.3(a)3 through 6.**

### 7:27C-3.2 Submission of an application for a new or modified operating permit incorporating $CO_2$ Budget Trading Program requirements

**For any $CO_2$ budget source, the $CO_2$ authorized account representative shall submit a complete application under N.J.A.C. 7:27-22.28, and in conformance with the requirements of this chapter, to incorporate the $CO_2$ budget trading program requirements covering such $CO_2$ budget source to the Department by the later of January 1, 2009 (or one week after the operative date of this chapter) or 12 months before the date on which the $CO_2$ budget source, or a new unit at the source, commences operation.**

**7:27C-3.3 Information requirements for an application for an operating permit incorporating $CO_2$ Budget Trading Program requirements**

**(a) A complete application for a new or modified operating permit for a $CO_2$ budget source shall include the following elements concerning the $CO_2$ budget source for which the application is submitted, in a format prescribed by the Department:**

**1. Identification of the $CO_2$ budget source, including plant name and the ORIS 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 $CO_2$ budget unit at the $CO_2$ budget source;**

**3. The standard requirements at N.J.A.C. 7:27C-1.4;**

**4. The compliance certification requirements at N.J.A.C. 7:27C-4.1;**

**5. The compliance requirements at N.J.A.C. 7:27C-6.9; and**

**6. The monitoring and reporting requirements at N.J.A.C. 7:27C-8.**

**SUBCHAPTER 4. COMPLIANCE CERTIFICATION**

**7:27C-4.1 Compliance certification report**

**(a) For each control period in which a $CO_2$ budget source is subject to the $CO_2$ requirements of N.J.A.C. 7:27C-1.4, the $CO_2$ authorized account representative of the source shall submit a compliance certification report to the Department, in a format provided by the Department, by March 1 following the relevant control period.**

**(b) The $CO_2$ authorized account representative shall include in the compliance certification report under (a) above the following elements:**

**1. Identification of the CO2 budget source and each $CO_2$ budget unit at the source;**

**2. At the $CO_2$ authorized account representative's option, the serial numbers of the $CO_2$ allowances that are to be deducted from the $CO_2$ budget source's compliance account under N.J.A.C. 7:27C-6.9 for the control period, including the serial numbers of any $CO_2$ offset allowances that are to be deducted subject to the limitations of N.J.A.C. 7:27C-6.9(a)3; and**

**3. The compliance certification under (c) below.**

**(c) In the compliance certification report required at (a) above, the $CO_2$ authorized account representative shall certify, based on reasonable inquiry of those persons with primary responsibility for operating the $CO_2$ budget source and the $CO_2$ budget units at the source in compliance with the $CO_2$ Budget Trading Program, whether the $CO_2$ budget source and each $CO_2$ budget unit at the source for which the compliance certification is submitted was operated during the calendar years covered by the report in compliance with the requirements of the $CO_2$ Budget Trading Program, including:**

**1. Whether the $CO_2$ budget source was operated in compliance with the $CO_2$ requirements of N.J.A.C. 7:27C-1.4;**

**2. Whether the monitoring plan applicable to each $CO_2$ budget unit at the $CO_2$ budget source has been maintained to reflect the actual operation and monitoring of the $CO_2$ budget unit, and contains all information necessary to attribute $CO_2$ emissions to the $CO_2$ budget unit, in accordance with N.J.A.C. 7:27C-8;**

**3. Whether all the $CO_2$ emissions from the $CO_2$ budget units at the $CO_2$ budget 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 N.J.A.C. 7:27C-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;**

**4. Whether the facts that form the basis for certification under N.J.A.C. 7:27C-8 of each monitor at each $CO_2$ budget unit at the $CO_2$ budget source, or for using an excepted monitoring method or alternative monitoring method approved under N.J.A.C. 7:27C-8, if any, have changed; and**

**5. If a change is required to be reported under (c)4 above, the specific nature of the change, the reason for the change, when the change occurred, and how the $CO_2$ budget 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.**

**7:27C-4.2 Department action on compliance certifications**

**(a) The Department may review and conduct independent audits of any compliance certification or any other submission under N.J.A.C. 7:27C and make appropriate adjustments of the information in the compliance certification or other submission.**

**(b) The Department will deduct $CO_2$ allowances from or transfer $CO_2$ allowances to a $CO_2$ budget source's compliance account, as appropriate, based on the information in the compliance certification or other submission, as adjusted under (a) above.**

## SUBCHAPTER 5. $CO_2$ ALLOWANCE ALLOCATIONS

**7:27C-5.1 New Jersey $CO_2$ Budget Trading Program base budget**

**(a) The New Jersey $CO_2$ Budget Trading Program annual base budget for the allocation years 2009 and later is as follows:**

**1. For the 2009 through 2014 allocation years, 22,892,730 tons;**

**2. For the 2015 allocation year, 22,320,412 tons;**

**3. For the 2016 allocation year, 21,748,094 tons;**

**4. For the 2017 allocation year, 21,175,775 tons; and**

**5. For the 2018 allocation year and each succeeding allocation year, 20,603,457 tons.**

**7:27C-5.2 $CO_2$ allowance allocations**

**(a) The Department will allocate $CO_2$ allowances representing 99 percent of the tons for each allocation year from the New Jersey $CO_2$ Budget Trading Program base budget set forth in N.J.A.C. 7:27C-5.1 to a consumer benefit account.**

**(b) The Department will distribute allowances from the consumer benefit account in accordance with N.J.A.C. 7:27C-5.3 through 5.5.**

**(c) The Department will allocate $CO_2$ allowances representing one percent of the tons for each allocation year from the New Jersey $CO_2$ Budget Trading Program annual base budget set forth in N.J.A.C. 7:27C-5.1 to a voluntary renewable energy market account. The Department will administer the voluntary renewable energy market account in accordance with the following procedures:**

**1. A retail provider of renewable energy or renewable energy attribute credits may submit a written request following the end of an allocation year to the Department to retire $CO_2$ allowances in the voluntary renewable energy market account for that allocation year. A request shall be submitted by the July 30 following the allocation year for which the request is being made and shall include sufficient information to demonstrate, to the satisfaction of the Department, that the voluntary renewable energy purchases referenced in the request resulted in avoided $CO_2$ emissions in a participating state or states during the allocation year. Any such request shall document that the voluntary renewable energy purchases addressed in such request represented a purchase of renewable energy or renewable energy attribute credits by an electricity ratepayer in New Jersey and that such purchases represented renewable energy or renewable energy attribute credits generated or created, as applicable, in a participating state or states. All data submitted must be verifiable and from reputable sources, which may include retail electricity providers, organizations that certify renewable energy products, and other parties, as determined to be appropriate by the Department. A request shall contain the following information:**

**i. Documentation of voluntary renewable energy or renewable energy attribute credit purchases by electricity ratepayers in New Jersey from the retail provider, designated in megawatt-hours or number of attribute credits by customer class in New Jersey during the allocation year, including documentation of the time period when the retail purchases were made;**

**ii. With respect to purchases documented pursuant to (c)1i above, documentation that the renewable energy or renewable energy attribute credits related to the voluntary renewable energy or renewable energy attribute credit purchases, designated by megawatt-hours or number of attribute credits, were procured by the retail provider;**

**iii. With respect to purchases documented pursuant to (c)1i above, documentation of the participating state where the electricity was generated**

**or the renewable energy attribute credit was created, including documentation of the electric generation facility name, unique generator identification number, and fuel type; and**

**iv. With respect to purchases documented pursuant to (c)1i above, documentation of the time period when the electricity was generated or the renewable energy attribute credit was created;**

**2. By the October 31 that follows the July 30 request date at (c)1 above, the Department will determine the actual voluntary renewable energy purchases in New Jersey that occurred during the allocation year and that represent renewable energy generation in one or more participating states during the allocation year. The Department will multiply the megawatt-hours of demonstrated voluntary renewable energy purchases or the number of renewable energy attribute credit purchases during an allocation year by the marginal $CO_2$ emissions rate, in pounds of $CO_2$ per megawatt hour, for the control area where the generation occurred, as determined by the Department. If data to determine the marginal emissions rate are unavailable, the Department will use the average emissions rate, in pounds of $CO_2$ per megawatt hour, as determined by the Department;**

**3. The Department will calculate $CO_2$ allowances to be retired from the voluntary renewable energy market account for an allocation year as follows:**

**$CO_2$ tons = MP x EF**

**where:**

**$CO_2$ tons, rounded down to the nearest whole ton, is the number of $CO_2$ allowances to be retired from the voluntary renewable energy market account for a specific allocation year;**

**MP is the demonstrated megawatt-hours of voluntary renewable energy or the number of renewable energy attributes credits (with each attribute credit representing the attributes related to one megawatt-hour of electric generation) purchased in New Jersey during the applicable allocation year, as submitted and demonstrated to the satisfaction of the Department in accordance with (c)1 above; and**

**EF is the $CO_2$ emissions factor, in pounds of $CO_2$ per MWh, for the control area where the electricity represented by the sale was generated, for the applicable allocation year, as determined by the Department pursuant to (c)2 above;**

**4. As of the November 30 that follows the allocation year referenced in a request pursuant to (c)1 above, the Department will retire $CO_2$ allowances in the voluntary renewable energy market account for the applicable allocation year in an amount up to the number of tons of avoided $CO_2$ emissions represented by actual voluntary renewable energy purchases, as determined by the Department pursuant to (c)2 and 3 above. In no event will the number of $CO_2$ allowances retired exceed the number of $CO_2$ allowances for a respective allocation year in the voluntary renewable energy market account;**

**5. If more than one retail provider of renewable energy or renewable energy attribute credits requests the retirement of $CO_2$ allowances, and the number of $CO_2$ allowances that are subject to the requests approved by the Department exceeds the number of $CO_2$ allowances for a respective allocation year in the voluntary renewable energy market account, the Department will retire $CO_2$ allowances from the account for such requests in the order in which such submitted retirement requests were received and subsequently approved by the Department. For purposes of this paragraph, requests will be considered simultaneous if they are made in the same month. Should retirement requests be submitted in the same month in excess of the allocation of allowances for a respective allocation year to the voluntary renewable energy market account, the Department will retire $CO_2$ allowances for such requests on a basis proportional to the number of $CO_2$ allowances requested for retirement and subsequently approved by the Department;**

**6. The Department will approve only those requests for $CO_2$ allowance retirements that demonstrate avoided $CO_2$ emissions during control periods starting on or after January 1, 2009; and**

**7. After retiring $CO_2$ allowances from the voluntary renewable market account for an allocation year pursuant to (c)4 above, the Department will transfer any remaining $CO_2$ allowances for that allocation year from the account to the consumer benefit account.**

**(d) The Department will allocate $CO_2$ allowances to $CO_2$ budget units that are cogeneration units pursuant to (e) through (k) below.**

**(e) In order for a $CO_2$ budget unit that is a cogeneration unit to qualify for the allocation of $CO_2$ allowances, the $CO_2$ budget unit shall meet the requirements at (g) and (h) below, and the $CO_2$ authorized account representative shall submit to the Department, by the March 30 following the end of the allocation year for which $CO_2$ allowances are being requested, a complete application, pursuant to (f) below, for the allocation of $CO_2$ allowances.**

**(f) An application for the allocation of $CO_2$ allowances shall include the following:**

**1. Documentation that the $CO_2$ budget unit meets the criteria for a cogeneration unit;**

**2. Documentation that the $CO_2$ budget unit meets the applicable thermal efficiency requirements at (g)2 and 3 and (h)2 below;**

**3. Identification of the compliance account for the $CO_2$ budget unit;**

**4. Identification of the allocation year for which an allocation request is being made;**

**4. Specification of the number of $CO_2$ allowances being requested, as calculated pursuant (j) or (k) below, as appropriate; and**

**5. The calculations and supporting data used to determine the number of $CO_2$ allowances being requested, and an explanation of the data and the methods on which the calculations are based.**

**(g) To qualify for the allocation of allowances pursuant to (j) below, a $CO_2$ budget unit shall meet the following requirements:**

**1. The $CO_2$ budget unit must be a cogeneration unit;**

**2. The $CO_2$ authorized account representative for the $CO_2$ budget unit has not accepted a fixed-price sale offer of $CO_2$ allowances from the Department for the $CO_2$ budget unit pursuant to N.J.A.C. 7:27C-5.4(b) during the calendar year that corresponds to the allocation year for which the request for $CO_2$ allowances pursuant to (f) above is being made;**

**3. For the allocation of $CO_2$ allowances for the 2009 through 2011 allocation years, a $CO_2$ budget unit that is a cogeneration unit shall meet the following thermal efficiency levels, as demonstrated during the allocation year for which an allocation request is being submitted:**

**i. 42.5 percent thermal efficiency for a topping-cycle cogeneration unit if useful thermal energy produced is 15.0 percent or more of total energy output;**

**ii. 45.0 percent thermal efficiency for a topping-cycle cogeneration unit if useful thermal energy produced is less than 15.0 percent of total energy output;**

**iii. 45.0 percent thermal efficiency for all bottoming-cycle cogeneration units; and**

**4. For the allocation of $CO_2$ allowances for the 2012 allocation year and subsequent allocation years, a $CO_2$ budget unit that is a cogeneration unit shall meet a thermal efficiency level of 60.0 percent, as demonstrated during the allocation year for which an allocation request is being submitted.**

**(h) To qualify for the allocation of $CO_2$ allowances pursuant to (k) below, a $CO_2$ budget unit shall meet the following requirements:**

**1. The $CO_2$ budget unit must be a cogeneration unit;**

**2. The $CO_2$ authorized account representative for the $CO_2$ budget unit has not accepted a fixed-price sale offer of $CO_2$ allowances from the Department for the $CO_2$ budget unit pursuant to N.J.A.C. 7:27C-5.4(b) during the calendar year that corresponds to the allocation year for which the request for $CO_2$ allowances pursuant to (f) above is being made; and**

**3. The $CO_2$ budget unit shall meet a thermal efficiency of 70.0 percent, as demonstrated during the allocation year for which an allocation request is being submitted.**

**(i) A $CO_2$ budget unit shall demonstrate thermal efficiency as follows:**

$$Percent\ \ efficiency\ \ = \frac{UP + UTE}{TEI} \times 100\,\%$$

**where:**
**UP = useful power, represented in MMBtu, based on a conversion of 3.413 MMBtu per MWh, and reported in accordance with N.J.A.C. 7:27C-8.8;**
**UTE = useful thermal energy in MMBtu for the allocation year, as based on reported net steam output pursuant to N.J.A.C. 7:27C-8.8, provided that for the 2009 allocation year, 2009 data shall be used; and**
**TEI = total energy input in MMBtu, as reported pursuant to N.J.A.C. 7:27C-8.**

**(j) The Department will determine the allocation for a $CO_2$ budget unit that is a cogeneration unit that meets the applicable requirements at (g) above as follows:**

$$CO_2\ Allowances = \frac{UTE}{LHV} \times \frac{EF_{CO_2}}{2000}$$

**where:**
**UTE = useful thermal energy in MMBtu for the allocation year, as based on reported net steam output pursuant to N.J.A.C. 7:27C-8.8, provided that for a request for $CO_2$ allowances for the 2009 allocation year, the Department will use reported 2009 net steam output data;**
**LHV = lower heating value of the fuel from EPA, Compilation of Air Pollutant Emissions Factors, Volume I: Stationary Point and Area Sources (AP-42), 1995, as supplemented and amended and incorporated by reference herein, which may be accessed electronically through the EPA Technology Transfer Network CHIEF site at http://www.epa.gov/ttn/chief/ap42/index.html;**
**$EF_{CO2}$ = $CO_2$ emission factor for the fuel from EPA, Compilation of Air Pollutant Emissions Factors, Volume I: Stationary Point and Area Sources (AP-42), 1995, as supplemented and amended and incorporated by reference herein, which may be accessed electronically through the EPA Technology Transfer Network CHIEF site at http://www.epa.gov/ttn/chief/ap42/index.html; and**
**2000 = conversion from lbs to tons.**

**(k) The Department will determine the allocation for a $CO_2$ budget unit that is a cogeneration unit that meets the applicable requirements at (h) above based on the $CO_2$ emissions for the $CO_2$ budget unit during the allocation year for which an allocation request is being submitted. The Department will allocate $CO_2$ allowances in a number equivalent to the $CO_2$ emissions of the $CO_2$ budget unit during the allocation year.**

***(l)* The Department will award early reduction $CO_2$ allowances to a $CO_2$ budget source for reductions in the $CO_2$ budget source's $CO_2$ emissions (inclusive of all emissions from $CO_2$ budget units at the $CO_2$ budget source) that are achieved by the source during the early**

**reduction period (2006, 2007, and 2008), pursuant to (m) through (q) below. Total facility shutdowns are not eligible for early reduction $CO_2$ allowances.**

**(m) The $CO_2$ budget source shall submit its application to the Department for the award of early reduction $CO_2$ allowances by May 1, 2009.**

**(n) The $CO_2$ budget source shall demonstrate that all $CO_2$ budget units that existed at the source during the baseline period (2003, 2004, and 2005) are included as $CO_2$ budget units for the early reduction period. New $CO_2$ budget units added at the $CO_2$ budget source shall also be accounted for during the early reduction period.**

**(*o*) The Department will calculate the number of early reduction $CO_2$ allowances to be awarded to a particular $CO_2$ budget source for the early reduction period pursuant to the following methodology, as appropriate:**

**1. If total heat input to all $CO_2$ budget units at the $CO_2$ budget source during the early reduction period is less than or equal to the total heat input to all the $CO_2$ budget units at the $CO_2$ budget source during the baseline period, then early reduction $CO_2$ allowances will be calculated as follows:**

$$ERAs = ((AEER_{BASELINE} - AEER_{ERP}) \times (EO_{ERP} + (TO_{ERP}/3.413))/2000$$

**where:**
**"ERAs" is the number of early reduction $CO_2$ allowances, represented as tons of $CO_2$;**
**"$AEER_{BASELINE}$" is the average $CO_2$ emissions rate resulting from electric energy output and thermal energy output for all of the $CO_2$ budget units at the $CO_2$ budget source during the baseline period (in pounds of $CO_2$ /MWhth+e);**
**"$AEER_{ERP}$" is the average $CO_2$ emissions rate resulting from electric energy output and thermal energy output for all of the $CO_2$ budget units at the $CO_2$ budget source during the early reduction period (in pounds of $CO_2$ /MWhth+e);**
**"$EO_{ERP}$" is the total electric energy output from all $CO_2$ budget units at the $CO_2$ budget source during the early reduction period (in MWhe); and**
**"$TO_{ERP}$" is the total useful thermal energy output from all $CO_2$ budget units at the $CO_2$ budget source during the early reduction period (in MMBtu); or**

**2. If total heat input to all $CO_2$ budget units at the $CO_2$ budget source during the early reduction period is greater than the total heat input to all the $CO_2$ budget units at the $CO_2$ budget source during the baseline period, then early reduction $CO_2$ allowances will be calculated as follows:**

$$ERAs = E_{BASELINE} - E_{ERP}$$

**where:**

**"ERAs" is the number of early reduction $CO_2$ allowances, represented as tons of $CO_2$**
**"$E_{BASELINE}$" are total $CO_2$ emissions from the all of the $CO_2$ budget units at the $CO_2$ budget source during the baseline period (in tons); and**
**"$E_{ERP}$" are total $CO_2$ emissions from the all of the $CO_2$ budget units at the $CO_2$ budget source during the early reduction period (in tons).**

**(p) The $CO_2$ budget source shall demonstrate that the data submitted in support of the early reduction application were recorded in accordance with the requirements of N.J.A.C. 7:27C-8 for all of the baseline years and the early reduction years for which the $CO_2$ budget source was required to report $CO_2$ data pursuant to 40 CFR Part 75. A $CO_2$ budget source that was not required to submit $CO_2$ data pursuant to 40 CFR Part 75 for any of the years contained in the baseline period or early reduction period may petition the Department, as part of its application for early reduction $CO_2$ allowances submitted pursuant to N.J.A.C. 7:27C-5.2(d), for the use of an alternative data source or sources for the calculation of early reduction allowances.**

**(q) After the Department confirms a $CO_2$ budget source's early reductions of $CO_2$ emissions, it will award the early reduction $CO_2$ allowances to the $CO_2$ budget source's compliance account by December 31, 2009.**

**7:27C-5.3 Timing requirements for distribution of $CO_2$ allowances in the consumer benefit account**

**(a) Except for $CO_2$ allowances transferred by the Department into the consumer benefit account pursuant to N.J.A.C. 7:27C-5.2(c)7 or allocated to a $CO_2$ budget source pursuant to N.J.A.C. 7:27C-5.2(j) and (k), the Department will make all $CO_2$ allowances for an allocation year that are held in the consumer benefit account for that allocation year available for purchase or auction by no later than the December 31 of the calendar year that corresponds to that allocation year.**

**7:27C-5.4 Distribution of $CO_2$ allowances in the consumer benefit account**

**(a) Except for those $CO_2$ allowances allocated to a $CO_2$ budget unit pursuant to N.J.A.C. 7:27C-5.2(j) and (k) or sold to a $CO_2$ authorized account representative pursuant to (b) below, the Department will make all $CO_2$ allowances for a respective allocation year that are held in the consumer benefit account available for sale through an auction administered on behalf of the Department, pursuant to N.J.A.C. 7:27C-5.5.**

**(b) On an annual basis, the Department will make $CO_2$ allowances in the consumer benefit account available for sale to the $CO_2$ authorized account representative of a $CO_2$ budget**

**unit or units at a certified dispatch agreement facility through a fixed-price sale offer, as follows:**

**1. The Department will apportion $CO_2$ allowances available annually for sale to each $CO_2$ budget unit at a certified dispatch agreement facility based on the average annual $CO_2$ emissions for the $CO_2$ budget unit, as determined by the Department, for the most recent three-year period for which complete $CO_2$ emissions data are available. The Department will use emissions data as reported pursuant to N.J.A.C. 7:27C-8, if available, and as supplemented by such other data as necessary, in making such a determination;**

**2. The Department will offer $CO_2$ allowances made available for sale through a fixed-price sale offer for a price of $2.00 per $CO_2$ allowance;**

**3. The Department will publish notice of the procedures for purchasing $CO_2$ allowances through a fixed-price sale offer at least 45 days prior to the fixed-price sale offer. The public notice will include the following:**

**i. The number of $CO_2$ allowances available for purchase by a $CO_2$ authorized account representative on behalf of each $CO_2$ budget unit at a certified dispatch agreement facility; and**

**ii. The procedures for purchasing $CO_2$ allowances through the fixed-price sale offer, including the date by which a purchase option shall be exercised by a $CO_2$ authorized account representative on behalf of a $CO_2$ budget unit at a certified dispatch agreement facility, and the procedures for exercising a purchase option;**

**4. The $CO_2$ authorized account representative for a $CO_2$ budget unit at a certified dispatch agreement facility shall notify the Department by the deadline specified in the Department's notice of a fixed-price sale offer issued pursuant to (b)3 above as to whether the $CO_2$ authorized account representative accepts the Department's sale offer of $CO_2$ allowances for a specified $CO_2$ budget unit. The $CO_2$ authorized account representative shall specify the number of $CO_2$ allowances the $CO_2$ authorized account representative intends to purchase on behalf of each $CO_2$ budget unit, up to the number specified by the Department in the notice, as specified pursuant to (b)3 above for the applicable $CO_2$ budget unit; and**

**5. For those $CO_2$ allowances purchased by a $CO_2$ authorized account representative on behalf of a $CO_2$ budget unit, the Department will allocate allowances to the compliance account of the $CO_2$ budget unit.**

**(c) For a $CO_2$ budget source to be eligible to receive a fixed-price sale offer from the Department pursuant to (b) above, the owner or operator of the $CO_2$ budget source shall certify to the Department, through a sworn affidavit and supporting documentation from an independent entity, signed by both an official representative of the independent entity and by the chief financial officer or equivalent of the owner or operator of the $CO_2$ budget source, that the $CO_2$ budget source meets the criteria for a dispatch agreement facility as follows:**

**1. The $CO_2$ budget source is a cogeneration facility or the $CO_2$ budget source has a heat rate of less than 8,100 Btu per kilowatt-hour electric; and**

**2. The $CO_2$ budget source is subject to a power purchase agreement that includes the following conditions:**

**i. The agreement was executed prior to January 1, 2002;**

**ii. The agreement is for a duration of more than 15 years from its effective date;**

**iii. The agreement provides that the counterpart to the agreement that purchases energy from the facility controls the electric dispatch of the facility;**

**iv. The agreement does not allow for the facility to pass the cost of $CO_2$ allowances on to the counterpart to the agreement that purchases energy from the facility; and**

**v. The agreement is currently in effect.**

**(d) The owner or operator of a $CO_2$ budget source certified as a dispatch agreement facility shall provide on-site access, upon the request of the Department, to any information the Department requires to determine the validity of the certification provided pursuant to (c) above.**

**(e) If, subsequent to the submittal of a sworn affidavit and supporting documentation pursuant to (c) above, there is any material change to the information and statements contained in the sworn affidavit and supporting material, the persons who submitted the sworn affidavit and supporting material shall submit a supplemental sworn affidavit and supporting material addressing any such material change within 30 days after the change occurs. If the supplemental sworn affidavit and supporting material is not submitted to the Department, the $CO_2$ budget source will not be eligible to receive a fixed-price sale offer.**

**(f) At such time that the power purchase agreement documented pursuant to (c)2 above for a certified dispatch agreement facility expires or is terminated, or when the services under a new contract become effective, the facility will no longer be considered a certified dispatch agreement facility.**

**(g) Any signatory to a sworn affidavit submitted pursuant to (c) above who knowingly gives or causes to be given any false or misleading information or who knowingly makes any false or misleading statement in such affidavit shall be subject to the penalties and financial assessments outlined at N.J.S.A. 26:2C-49e, and the $CO_2$ budget unit referenced in the affidavit shall no longer be considered a certified dispatch agreement facility.**

**(h) Any $CO_2$ allowances purchased by a $CO_2$ authorized account representative on behalf of a $CO_2$ budget unit at a certified dispatch agreement facility and that remain in the compliance account for the related $CO_2$ budget source subsequent to the compliance deduction by the Department of $CO_2$ allowances for a control period pursuant to N.J.A.C.**

**7:27C-6.9(b) shall be assigned to the consumer benefit account established pursuant to N.J.A.C. 7:27C-5.2(a).**

**7:27C-5.5 Auction of $CO_2$ allowances**

**(a) The Department will conduct auctions to sell $CO_2$ allowances allocated to the consumer benefit account in accordance with N.J.A.C. 7:27C-5.5 through 5.18.**

**(b) Implementation and administrative support functions for any $CO_2$ allowance auction conducted pursuant to N.J.A.C. 7:27C-5.5 through 5.18 may be delegated by the Department to an agent qualified to conduct auctions, including a regional entity, provided that such agent shall perform all such functions under the direction and oversight of the Department.**

**(c) The proceeds from the auction of $CO_2$ allowances will be deposited in the Global Warming Solutions Fund established pursuant to N.J.S.A. 26:2C-50.**

**7:27C-5.6 Auction format**

**(a) In conducting $CO_2$ allowance auctions, the Department will employ one or more of the following auction formats:**

1. **Uniform-price sealed-bid;**
2. **Discriminatory-price sealed-bid;**
3. **Ascending price, multiple-round; or**
4. **Descending price, multiple round.**

**(b) The Department will auction $CO_2$ allowances in lots of 1,000 $CO_2$ allowances, except in such instance where the volume of $CO_2$ allowances auctioned requires an individual lot size smaller than 1,000.**

**7:27C-5.7 Auction timing and $CO_2$ allowance submission schedule**

**(a) The Department will hold $CO_2$ allowance auctions no less frequently than annually, and as frequently as determined by the Department to be necessary and practical to ensure the availability of $CO_2$ allowances to $CO_2$ budget units and to support the effective functioning of the $CO_2$ allowance market.**

**(b) Prior to the end of a control period, the Department will make available for sale all $CO_2$ allowances of allocation years that fall within the control period that are held in the consumer benefit account, less any $CO_2$ allowances allocated pursuant to N.J.A.C. 7:27C-5.2(j) and (k) and 5.4(b).**

**(c) In each $CO_2$ allowance auction, the Department will make available for sale $CO_2$ allowances of allocation years that fall within a corresponding control period and $CO_2$ allowances of allocation years that fall within a subsequent future control period, in a number as determined to be appropriate by the Department.**

**(d) The number of $CO_2$ allowances to be made available for sale in a specific auction will be disclosed in the notice of $CO_2$ allowance auction issued pursuant to N.J.A.C. 7:27C-5.9.**

**7:27C-5.8 Reserve price and disposition of unsold allowances**

**(a) The Department will establish a reserve price for each $CO_2$ allowance auction, which is the price below which no $CO_2$ allowances will be sold. The Department will publicly announce the reserve price prior to each $CO_2$ allowance auction.**

**(b) The monetary amount of the reserve price established by the Department will be the higher of the minimum reserve price or the current market reserve price, as determined by the Department, unless the Department determines there are not enough data available to justify the calculation of a current market reserve price, in which case the established reserve price will be the minimum reserve price.**

**(c) If, after a $CO_2$ allowance auction has been held, any $CO_2$ allowances offered for sale at the $CO_2$ allowance auction remain unsold, such unsold $CO_2$ allowances will be distributed as follows:**

**1. Unsold $CO_2$ allowances of a particular allocation year will be made available for sale in the subsequent $CO_2$ allowance auction for $CO_2$ allowances of that allocation year, subject to the limitations at (c)2 below, provided a reserve price greater than the minimum reserve price is in effect for such $CO_2$ allowance auction; and**

**2. If following the end of a control period there are unsold $CO_2$ allowances of allocation years that fall within that control period, such $CO_2$ allowances will be distributed as follows:**

**i. The Department will offer such $CO_2$ allowances for sale in a subsequent $CO_2$ allowance auction or auctions during the next control period for which a reserve price greater than the minimum reserve price is in effect; or**

**ii. The Department will retire the unsold $CO_2$ allowances.**

**7:27C-5.9 Auction notice**

**(a) The Department will provide a notice of $CO_2$ allowance auction on the auction website no later than 45 days prior to the date upon which the auction will be conducted.**

**(b) The notice of $CO_2$ allowance auction will include, but not necessarily be limited to, the following:**

**1. The date, time, and location of the $CO_2$ allowance auction, including the Internet address or electronic address for the $CO_2$ allowance auction location, as applicable;**
**2. The format for the $CO_2$ allowance auction;**
**3. The number of $CO_2$ allowances to be auctioned, by allocation year;**
**4. The procedures for conducting the $CO_2$ allowance auction, including the required bid submission format and process, and information regarding financial settling of $CO_2$ allowance payments;**
**5. All $CO_2$ allowance auction participation requirements;**
**6. The amount and type of financial security required;**
**7. Participation limits, such as bidding limits that may apply to an individual bidder or a group of related bidders;**
**8. Application instructions for applying to participate in the $CO_2$ allowance auction, and application forms; and**
**9. Identification of a contact person for further information.**

**7:27C-5.10 Auction participant requirements**

**(a) In order to participate in a $CO_2$ allowance auction, a party must:**
**1. Be listed in the notice of $CO_2$ allowance auction issued pursuant to N.J.A.C. 7:27C-5.9(a) as a member of one of the categories of parties that are eligible to participate in the specified $CO_2$ allowance auction;**
**2. Open and maintain a compliance account or general account, established pursuant to N.J.A.C. 7:27C-6.2(a) or (b), respectively;**
**3. Submit a qualification application pursuant to N.J.A.C. 7:27C-5.12(a) and become qualified by the Department to participate in $CO_2$ allowance auctions pursuant to N.J.A.C. 7:27C-5.12(e); and**
**4. Submit financial security such as a bond, cash, certified funds, or an irrevocable stand-by letter of credit, in a manner and form acceptable to the Department, as specified in the notice of $CO_2$ allowance auction issued pursuant to N.J.A.C. 7:27C-5.9(a).**

**(b) Only a party that meets the requirements at (a) above will be classified by the Department as a bidder and approved to participate in a specified $CO_2$ allowance auction.**

**7:27C-5.11 Auction participant eligibility**

**(a) The Department will announce the categories of parties that are eligible to participate in a specific $CO_2$ allowance auction as part of the notice of $CO_2$ allowance auction, provided that an owner or operator of a $CO_2$ budget unit located in New Jersey is always eligible to participate in a $CO_2$ allowance auction.**

**(b) For any $CO_2$ allowance auction, the following categories of parties may be eligible to participate:**

**1. An owner or operator of a $CO_2$ budget unit located in New Jersey, which shall always be eligible to participate, pursuant to (a) above;**
**2. An owner or operator of a $CO_2$ budget unit located in a participating state; and**
**3. Any other market participants, as may be specified in the notice of $CO_2$ allowance auction, with or without limitation.**

**7:27C-5.12 Auction participant qualification**

**(a) Any party that intends to participate in a $CO_2$ allowance auction or auctions shall submit a qualification application to the Department, in the form and manner specified in the notice of $CO_2$ allowance auction.**

**(b) The deadline for submitting a qualification application will be established in the notice of $CO_2$ allowance auction and shall be no sooner than 15 days following the publication of such notice.**

**(c) As part of a qualification application, an applicant shall provide information and documentation relating to the applicant's ability and authority to execute bids and honor contractual obligations, as well as information required to ensure adherence to the auction requirements and procedures specified in N.J.A.C. 7:27C-5.10, 5.11, and 5.13 through 5.15, as follows:**

**1. Identification by the applicant of either a compliance account or general account, established pursuant to N.J.A.C. 7:27C-6.2(a) or (b), and identification of the $CO_2$ authorized account representative for such compliance account or general account;**
**2. Information and documentation regarding the corporate identity, ownership, affiliations, and capital structure of the entity represented by the applicant;**
**3. Identification of any indictment or felony conviction of the applicant or any member, director, principle, partner, or officer of the entity represented by the applicant or any affiliate or related entity;**
**4. Identification of any previous or pending investigation of the applicant or the entity represented by the applicant or any affiliate or related entity, with respect to any alleged violation of any rule, regulation, or law associated with any commodity market or exchange; and**
**5. Such other information and declarations as the Department determines may be required of an applicant in order to evaluate prospective auction participants and ensure the integrity of the $CO_2$ allowance auction process in accordance with the requirements and procedures for $CO_2$ allowance auctions established at N.J.A.C. 7:27C-5.10, 5.11, and 5.13 through 5.15.**

**(d) The Department will determine whether a qualification application is complete, incomplete, or otherwise deficient. If the Department determines that an application is incomplete or otherwise deficient, the applicant will be given a reasonable opportunity, and in no event less than five business days and no more than 10 business days, as specified in**

**the notice of $CO_2$ allowance auction, to provide additional information to the Department in order to complete the application or remedy any application deficiency.**

**(e) The Department will review a complete qualification application and make a determination as to whether the applicant is qualified to participate in $CO_2$ allowance auctions. The Department will make a determination as to the qualification status of the applicant by the deadline for such determination specified in the notice of $CO_2$ allowance auction.**

**(f) The Department may deny qualification to a party based on information submitted in a qualification application in order to ensure the integrity of the $CO_2$ allowance auction process in accordance with the requirements and procedures for auctions established at N.J.A.C. 7:27C-5.10, 5.11, and 5.13 through 5.15.**

**(g) The Department may revoke the qualification status of a party, if such party fails to comply with the requirements of N.J.A.C. 7:27C-5.10, 5.11, and 5.13 through 5.15, or if the Department determines that such party has provided false or misleading information or withheld pertinent information from its qualification application submitted pursuant to (a) above. The Department may also prohibit a party that has engaged in such conduct from participating in future $CO_2$ allowance auctions where the Department determines that the prior conduct of the party could compromise the integrity of a subsequent $CO_2$ allowance auction.**

**(h) A party found by the Department to be qualified to participate in a $CO_2$ allowance auction will be qualified to participate in subsequent $CO_2$ allowance auctions, provided that there has been no material change to the information supplied to the Department in the qualification application submitted pursuant to (a) above. If there is any material change to the information in the qualification application submitted pursuant to (a) above, the party's qualification will expire as of the date of such change, pending the submission by the party of a new qualification application pursuant to (a) above and a determination by the Department that the party is qualified to participate in $CO_2$ allowance auctions.**

**(i) Prior to each $CO_2$ allowance auction, a party that intends to participate in the auction shall notify the Department, through a notice of intent to participate, that the party intends to participate in the upcoming $CO_2$ allowance auction. Such notice shall be submitted to the Department by the same date as that required for submitting a qualification application established in the notice of $CO_2$ allowance auction for such auction.**

**(j) As part of a notice of intent to participate submitted to the Department pursuant to (i) above, a qualified party shall notify the Department whether there has been any material change to the information supplied by the qualified party to the Department in the qualification application submitted pursuant to (a) above.**

**7:27C-5.13 Submission of financial security**

**(a) In order to participate in any specific $CO_2$ allowance auction, a qualified party shall provide financial security to the Department, such as a bond, cash, certified funds, or an irrevocable stand-by letter of credit, in a form and manner prescribed by the Department in the notice of $CO_2$ allowance auction.**

**(b) Upon receipt and approval by the Department of financial security submitted pursuant to (a) above, the Department will approve the party to participate as a bidder in the specified $CO_2$ allowance auction.**

**(c) A party that submits financial security may request return of such financial security at any time prior to or following any $CO_2$ allowance auction, subject to the following limitations:**

**1. Any request for the return of financial security prior to the conduct of a $CO_2$ allowance auction will result in the Department revoking approval to participate in such $CO_2$ allowance auction, as of the date of such request;**

**2. The Department will not return such financial security if the Department has any current or pending claim to such financial security as a result of the failure of the bidder to abide by the requirements of N.J.A.C. 7:27C-5.10 through 5.15 or to pay the full amount of any submitted bid when payment is due; and**

**3. Financial security may be forfeited to the Department in the event the bidder's offer to purchase $CO_2$ allowances is accepted and the bidder fails to tender payment of the full amount when due.**

**7:27C-5.14 Bidder limitations**

**(a) A bidder may only submit a bid or bids in an amount up to the amount of financial security provided to the Department.**

**(b) No bidder or combination of bidders with related beneficial interests may purchase more than 25 percent of the $CO_2$ allowances offered for sale in any one $CO_2$ allowance auction.**

**7:27C-5.15 Bid submittal requirements**

**(a) All bids shall be submitted in a form and manner prescribed by the Department, which the Department will make available on the $CO_2$ allowance auction website, as appropriate.**

**(b) A bid submitted at a $CO_2$ allowance auction is a binding offer for the purchase of $CO_2$ allowances.**

**7:27C-5.16 Approval of auction results**

**(a) The Department will approve or disapprove the outcome of a $CO_2$ allowance auction following the completion of the auction.**

**(b)The Department will approve or disapprove the results of a $CO_2$ allowance auction based on an evaluation, in consultation with a market monitor, of whether the auction was conducted in accordance with the proposed procedures and requirements at N.J.A.C. 7:27C-5.5 through 5.15 and whether there was any indication of collusive behavior among auction participants or attempts at market manipulation that impacted the results of the auction.**

**7:27C-5.17 Award of $CO_2$ allowances to winning bidders**

**(a) Following the approval of the results of a $CO_2$ allowance auction by the Department pursuant to N.J.A.C. 7:27C-5.16 and the settlement of financial transactions by a winning bidder, the Department will award $CO_2$ allowances to such winning bidder in a number equal to the number of $CO_2$ allowances represented in winning bids submitted by the bidder.**

**(b) The Department will allocate $CO_2$ allowances to the compliance account or general account identified in the qualification application of a winning bidder, in a number equal to the $CO_2$ allowances awarded to the bidder pursuant to (a) above.**

**7:27C-5.18 Publication of auction results**

**Following the approval of an auction by the Department pursuant to N.J.A.C. 7:27C-5.16(a), and no later than 10 days following the allocation of $CO_2$ allowances to the $CO_2$ allowance accounts of winning bidders pursuant to N.J.A.C. 7:27C-5.17, the Department will publish on the $CO_2$ allowance auction website the auction clearing price and the number of $CO_2$ allowances sold in the auction.**

**SUBCHAPTER 6. $CO_2$ ALLOWANCE TRACKING SYSTEM**

**7:27C-6.1 $CO_2$ Allowance Tracking System accounts**

**(a) Consistent with N.J.A.C. 7:27C-6.2(a), the Department will establish one compliance account for each $CO_2$ budget source. Allocations of $CO_2$ allowances pursuant to N.J.A.C. 7:27C-5 and 11 and deductions or transfers of $CO_2$ allowances pursuant to N.J.A.C. 7:27C-4.2, 6.9, or 7 will be recorded in the compliance accounts in accordance with this subchapter.**

**(b) Consistent with N.J.A.C. 7:27C-6.2(b), the Department will establish, upon request, a general account for any person. Transfers of $CO_2$ allowances pursuant to N.J.A.C.**

**7:27C-7 will be recorded in the general account in accordance with this subchapter.**

**7:27C-6.2 Establishment of a $CO_2$ Allowance Tracking System account**

**(a) Upon receipt of a complete account certificate of representation under N.J.A.C. 7:27C-2.4, the Department will establish a compliance account for each $CO_2$ budget source for which the account certificate of representation was submitted, and will assign a unique identifying number to each such established account.**

**(b) Upon receipt of a complete application for a general account under N.J.A.C. 7:27C-6.3(b), the Department will establish a general account for the person or persons for whom the application is submitted, and will assign a unique identifying number to each such established account.**

**(c) Once the Department has established a $CO_2$ Allowance Tracking System account, all submissions to the Department pertaining to the account, including, but not limited to, submissions concerning the deduction or transfer of $CO_2$ allowances in the account, shall be made only by the $CO_2$ authorized account representative for the account.**

**7:27C-6.3 Procedures for opening a general account**

**(a) Any person may apply to open a general account for the purpose of holding and transferring $CO_2$ allowances by submitting an application for a general account pursuant to (b) below.**

**(b) A complete application for a general account shall include the following elements in a format prescribed by the Department:**

**1. The name, address, e-mail address, telephone number, and facsimile transmission number of the $CO_2$ authorized account representative for the general account and any alternate $CO_2$ authorized account representative for the general account;**

**2. At the option of the $CO_2$ authorized account representative for the general account, the organization name and type of organization;**

**3. A list of all persons subject to a binding agreement for the $CO_2$ authorized account representative for the general account or any alternate $CO_2$ authorized account representative for the general account to represent their ownership interest with respect to the $CO_2$ allowances held in the general account;**

**4. The following certification by the $CO_2$ authorized account representative for the general account and any alternate $CO_2$ authorized account representative for the general account: "I certify that I was selected as the $CO_2$ authorized account representative for the general account (or the alternate $CO_2$ authorized account representative for the general account, as applicable) by an agreement that is binding on all persons who have an ownership interest with respect to $CO_2$**

**allowances held in the general account. I certify that I have all the necessary authority to carry out my duties and responsibilities under the $CO_2$ 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 a court of competent jurisdiction regarding the general account.";**

**5. The signature of the $CO_2$ authorized account representative for the general account and any alternate $CO_2$ authorized account representative for the general account and the dates signed; and**

**6. Documents of agreement referred to in the application for a general account, as may be required by the Department.**

**(c) The Department is under no obligation to review or evaluate the sufficiency of any documents of agreement referred to in the application for a general account.**

**(d) An application for a general account shall designate one and only one $CO_2$ authorized account representative and one and only one alternate $CO_2$ authorized account representative who may act on behalf of the $CO_2$ authorized account representative. The agreement by which the alternate $CO_2$ authorized account representative is selected shall include a procedure for authorizing the alternate $CO_2$ authorized account representative to act in lieu of the $CO_2$ authorized account representative.**

**7:27C-6.4 Authorization of the $CO_2$ authorized account representative for a general account**

**(a) The $CO_2$ authorized account representative for a general account and any alternate $CO_2$ authorized account representative for a general account shall represent and, by his or her representations, actions, inactions, or submissions, legally bind each person who has an ownership interest with respect to $CO_2$ allowances held in the general account in all matters pertaining to the $CO_2$ Budget Trading Program, notwithstanding any agreement between the $CO_2$ authorized account representative for the general account or any alternate $CO_2$ authorized account representative for the general account and such person. Each such person who has such ownership interest with respect to $CO_2$ allowances shall be bound by any order or decision issued to the $CO_2$ authorized account representative for the general account or any alternate $CO_2$ authorized account representative for the general account by the Department or a court of competent jurisdiction regarding the general account.**

**(b) Any representation, action, inaction, or submission by any alternate $CO_2$ authorized account representative shall be deemed to be a representation, action, inaction, or submission by the $CO_2$ authorized account representative.**

**(c) Each submission concerning the general account shall be submitted, signed, and certified by the $CO_2$ authorized account representative for the general account or any alternate $CO_2$ authorized account representative for the general account. Each such submission shall include the following certification by the $CO_2$ authorized account representative for the general account or any alternate $CO_2$ authorized account representative for the general account:**
**"I am authorized to make this submission on behalf of the persons having an ownership interest with respect to the $CO_2$ 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."**

**(d) The Department will accept or act on a submission concerning the general account only if the submission has been made, signed, and certified in accordance with (c) above.**

**7:27C-6.5 Changing the $CO_2$ authorized account representative for a general account and the alternate $CO_2$ authorized account representative for a general account; changes in ownership interest with respect to $CO_2$ allowances in a general account**

**(a) The $CO_2$ authorized account representative for a general account or the alternate $CO_2$ authorized account representative for a general account may be changed at any time by submitting a superseding complete application for a general account pursuant to N.J.A.C. 7:27C-6.3(b). The change in the $CO_2$ authorized account representative for the general account or the alternate $CO_2$ authorized account representative for the general account is effective upon receipt by the Department of the superseding complete application for a general account. Notwithstanding any such change, all representations, actions, inactions, and submissions by the previous $CO_2$ authorized account representative for the general account or the previous alternate $CO_2$ authorized account representative for the general account prior to the time and date when the Department receives the superseding application for a general account shall be binding on the new $CO_2$ authorized account representative for the general account and the new alternate $CO_2$ authorized account representative for the general account and the persons with an ownership interest with respect to the $CO_2$ allowances in the general account.**

**(b) In the event a person with an ownership interest in $CO_2$ allowances in a general account is not included in the list of such persons in the application for a general account, such person shall be deemed to be subject to and bound by the application for a general account, the representations, actions, inactions, and submissions of the $CO_2$ authorized account representative and any alternate $CO_2$ authorized account representative, and the**

**decisions, orders, actions, and inactions of the Department, as if the person were included in the list.**

**(c) Within 30 days following any change in the persons having an ownership interest with respect to $CO_2$ allowances in the general account, including the addition of persons, the $CO_2$ authorized account representative or any alternate $CO_2$ 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 $CO_2$ allowances in the general account to reflect the change.**

**7:27C-6.6 Objections concerning the $CO_2$ authorized account representative for a general account**

**(a) Once the Department has received a complete application for a general account under N.J.A.C. 7:27C-6.3(b), the Department will rely on the application, unless and until the Department receives a superseding complete application for a general account under N.J.A.C. 7:27C-6.5(a).**

**(b) Except as provided at N.J.A.C. 7:27C-6.5(a) or (b), no objection or other communication submitted to the Department concerning the authorization, or any representation, action, inaction, or submission of the $CO_2$ authorized account representative for the general account or any alternate $CO_2$ authorized account representative for the general account shall affect any representation, action, inaction, or submission of the $CO_2$ authorized account representative for the general account or any alternate $CO_2$ authorized account representative for the general account or the finality of any decision or order by the Department under this chapter.**

**(c) The Department will not decide or otherwise intervene in any dispute concerning the authorization or any representation, action, inaction, or submission of a $CO_2$ authorized account representative or any alternate $CO_2$ authorized account representative for a general account, including private legal disputes concerning the proceeds of $CO_2$ allowance transfers.**

**7:27C-6.7 Delegation of authority to make electronic submissions by the $CO_2$ authorized account representative for a general account and the alternate $CO_2$ authorized account representative for a general account**

**(a) A $CO_2$ authorized account representative for a general account or an alternate $CO_2$ authorized account representative for a general account may delegate, to one or more natural persons, his or her authority to make an electronic submission to the Department under N.J.A.C. 7:27C-7.1 as provided at (b) below.**

**(b) In order to delegate authority to make an electronic submission to the Department in accordance with (a) above, the $CO_2$ authorized account representative for a general account or alternate $CO_2$ authorized account representative for a general account, as appropriate, shall submit to the Department a notice of delegation, in a format prescribed by the Department, that includes the following elements:**

**1. The name, address, e-mail address, telephone number, and facsimile transmission number of such $CO_2$ authorized account representative or alternate $CO_2$ authorized account representative;**

**2. The name, address, e-mail address, telephone number, and facsimile transmission number of each such natural person, herein referred to as "electronic submission agent";**

**3. For each such natural person, a list of the types of electronic submissions under (a) above for which authority is delegated to him or her; and**

**4. The following certification by the delegating $CO_2$ authorized account representative for the general account or the delegating alternate $CO_2$ authorized account representative for the general account, as appropriate:**

**"I agree that any electronic submission to the Department that is by a natural person identified in this notice of delegation and of a type listed for such electronic submission agent in this notice of delegation and that is made when I am a $CO_2$ authorized account representative (or alternate $CO_2$ authorized account representative, as appropriate,) and before this notice of delegation is superseded by another notice of delegation under N.J.A.C. 7:27C-6.7(b) shall be deemed to be an electronic submission by me." and**

**"Until this notice of delegation is superseded by another notice of delegation under N.J.A.C. 7:27C-6.7(b), I agree to maintain an e-mail account and to notify the Department immediately of any change in my e-mail address unless all delegation authority by me under N.J.A.C. 7:27C-6.7(b) is terminated."**

**(c) A notice of delegation submitted under (b) above shall be effective, with regard to the delegating $CO_2$ authorized account representative for the general account or the delegating alternate $CO_2$ authorized account representative for the general account identified in such notice, upon receipt of such notice by the Department and until the Department has received a superseding notice of delegation by such $CO_2$ authorized account representative or alternate $CO_2$ 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.**

**(d) Any electronic submission covered by the certification in (b)4 above and made in accordance with a notice of delegation effective under (b) above shall be deemed to be an electronic submission by the $CO_2$ authorized account representative for the general account or alternate $CO_2$ authorized account representative for the general account submitting such notice of delegation.**

**7:27C-6.8 Recordation of $CO_2$ allowance allocations and $CO_2$ allowance awards**

**(a) By no later than January 30, 2009, the Department will record in the following accounts the $CO_2$ allowances for the 2009 through 2018 allocation years:**

**1. The $CO_2$ allowances allocated to the consumer benefit account, pursuant to N.J.A.C. 7:27C-5.2(a); and**

**2. The $CO_2$ allowances allocated to the voluntary renewable energy account pursuant to N.J.A.C. 7:27C-5.2(c).**

**(b) When allocating $CO_2$ allowances to and recording them in an account pursuant to (a) above, the Department will assign each $CO_2$ allowance a unique identification number that will include digits identifying the year for which the $CO_2$ allowance is allocated.**

**(c) When awarding $CO_2$ allowances to and recording them in an account pursuant to (d) and (h) below, the Department will assign each $CO_2$ allowance a unique identification number that will include digits identifying the year for which the $CO_2$ allowance is allocated. If the $CO_2$ allowance is a $CO_2$ offset allowance, the unique identification number will identify the $CO_2$ offset allowance as such.**

**(d) On or before December 31, 2009, the Department will record any early reduction $CO_2$ allowances awarded to a $CO_2$ budget source pursuant to N.J.A.C. 7:27C-5.2(q) in the applicable $CO_2$ budget source's compliance account.**

**(e) The Department will record any $CO_2$ allowances allocated to a $CO_2$ budget source pursuant to N.J.A.C. 7:27C-5.2(j) and (k) in the compliance account of the applicable $CO_2$ budget source within five business days of such allocation by the Department.**

**(f) The Department will record any $CO_2$ allowances allocated to a $CO_2$ budget source pursuant to N.J.A.C. 7:27C-5.4(b) to the compliance account of the applicable $CO_2$ budget source within five business days of such allocation by the Department.**

**(g) The Department will record any $CO_2$ allowances awarded to a winning bidder in a $CO_2$ allowance auction pursuant to N.J.A.C. 7:27C-5.17(b) in the compliance account or general account identified by such winning bidder within five business days of such award by the Department.**

**(h) The Department will record any $CO_2$ allowances awarded to an offset project sponsor pursuant to N.J.A.C. 7:27C-10.11(a) or (b) in the applicable offset project sponsor's general account within five business days of such award by the Department.**

**7:27C-6.9 Compliance**

**(a) $CO_2$ allowances are available to be deducted in order for a $CO_2$ budget source to comply with the $CO_2$ requirements of N.J.A.C. 7:27C-1.4 for a control period, provided that:**

**1. The $CO_2$ allowances, other than $CO_2$ offset allowances, are of allocation years that fall within a prior control period or the same control period for which the allowances will be deducted;**

**2. The $CO_2$ allowances are held in the $CO_2$ budget source's compliance account as of the $CO_2$ allowance transfer deadline for that control period or are transferred into the compliance account by a $CO_2$ allowance transfer correctly submitted for recordation under N.J.A.C. 7:27C-7.1 by the $CO_2$ allowance transfer deadline for that control period;**

**3. For $CO_2$ offset allowances, the number of $CO_2$ offset allowances that are**

**available to be deducted in order for a $CO_2$ budget source to comply with the $CO_2$ requirements of N.J.A.C. 7:27C-1.4 for a control period may not exceed the number of tons representing the following percentages of the $CO_2$ budget source's $CO_2$ emissions for that control period, as determined in accordance with (a)3i through iii below, and N.J.A.C. 7:27C-8:**

**i. Unless the provisions of (a)3ii or iii below apply, 3.3 percent;**

**ii. If the Department determines that there has been a stage-one trigger event, five percent; or**

**iii. If the Department determines that there has been a stage-two trigger event, 10 percent; and**

**4. The $CO_2$ allowances are not necessary for deductions for excess emissions for a prior control period under (e) below.**

**(b) Following the recordation, in accordance with N.J.A.C. 7:27C-7.2, of $CO_2$ allowance transfers submitted for recordation in the $CO_2$ budget source's compliance account by the $CO_2$ allowance transfer deadline for a control period, the Department will deduct $CO_2$ allowances available under (a) above to cover the source's $CO_2$ emissions for the control period, as follows:**

**1. Until the number of $CO_2$ allowances deducted equals the number of tons of total $CO_2$ emissions, less any $CO_2$ emissions attributable to the burning of eligible biomass, determined in accordance with N.J.A.C. 7:27C-8, from all $CO_2$ budget units at the $CO_2$ budget source for the control period; or**

**2. If there are insufficient $CO_2$ allowances to complete the deductions at (b)1 above, until there are no more $CO_2$ allowances remaining in the compliance account that are available to be deducted under (a) above.**

**(c) The $CO_2$ authorized account representative for a $CO_2$ budget source's compliance account may request the deduction of specific $CO_2$ allowances in the compliance account, identified by serial number, for emissions or excess emissions for a control period in accordance with (b) above or (e) below, as applicable. Such identification shall be made in the compliance certification report pursuant to N.J.A.C. 7:27C-4.1(b)2.**

**(d) Where there is no identification by the $CO_2$ authorized account representative, or only partial identification, of available $CO_2$ allowances by serial number pursuant to N.J.A.C. 7:27C-4.1(b)2, the Department will deduct $CO_2$ allowances for a control period from the $CO_2$ budget source's compliance account, in the following order:**

**1. $CO_2$ offset allowances, subject to the relevant compliance deduction limitations under (a)3 above, in chronological order (that is, $CO_2$ offset allowances from earlier allocation years shall be deducted before $CO_2$ offset allowances from later allocation years). In the event that some, but not all, $CO_2$ offset allowances from a particular allocation year are to be deducted, $CO_2$ offset allowances shall be deducted by serial number, with lower serial number allowances deducted before higher serial number allowances; and**

**2. Any $CO_2$ allowances, other than $CO_2$ offset allowances, that are available for deduction under (a) above. $CO_2$ allowances shall be deducted in chronological order (that is, $CO_2$ allowances from earlier allocation years shall be deducted before**

**$CO_2$ allowances from later allocation years). In the event that some, but not all, $CO_2$ allowances from a particular allocation year are to be deducted, $CO_2$ allowances shall be deducted by serial number, with lower serial number allowances deducted before higher serial number allowances.**

**(e) If, after the deduction of $CO_2$ allowances for compliance in accordance with (b) above, a $CO_2$ budget source has excess emissions, the Department will deduct from the $CO_2$ budget source's compliance account a number of $CO_2$ allowances, from allocation years that occur after the control period in which the $CO_2$ budget source has excess emissions, equal to three times the number of the $CO_2$ budget source's excess emissions. In the event that a $CO_2$ budget source has insufficient $CO_2$ allowances to cover three times the number of the $CO_2$ budget source's excess emissions, the $CO_2$ budget source shall be required to immediately transfer $CO_2$ allowances into its compliance account in a quantity equal to three times the $CO_2$ budget source's excess emissions. No $CO_2$ offset allowances may be deducted to account for the source's excess emissions.**

**(f) The deduction of any $CO_2$ allowances required under (e) above will not affect the liability of the owners and operators of the $CO_2$ budget source or the $CO_2$ budget units at the $CO_2$ budget 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.**

**(g) The Department's determination that a $CO_2$ budget source had excess emissions and the concomitant deduction of $CO_2$ allowances from that $CO_2$ budget source's account may be later challenged in the context of the initial administrative action as set forth at N.J.A.C. 7:27C-1.6, or in the context of or any civil or criminal judicial action arising from or encompassing that excess emissions violation. The commencement or pendency of any administrative enforcement or civil or criminal judicial action arising from or encompassing that excess emissions violation will not act to prevent the Department from deducting the $CO_2$ allowances resulting from the Department's original determination that the relevant $CO_2$ budget source has had excess emissions. Should the Department's determination of the existence or extent of the $CO_2$ budget source's excess emissions be revised, either by a settlement or final conclusion of any administrative or judicial action, the Department will act as follows:**

**1. In any instance where the Department's determination of the extent of excess emissions was held to be too low, the Department will take further action under (e) and (f) above to address the expanded violation; and**

**2. In any instance where the Department's determination of the extent of excess emissions was held to be too high, the Department will distribute to the relevant $CO_2$ budget source a number of $CO_2$ allowances equaling the number of $CO_2$ allowances deducted which are attributable to the difference between the original and final quantity of excess emissions. Should such $CO_2$ budget source's compliance account no longer exist, the $CO_2$ allowances will be provided to a general account selected by the owner or operator of the $CO_2$ budget source from which they were originally deducted.**

**(h) The Department will record in the appropriate compliance account all deductions from such an account made pursuant to (b) and (e) above.**

**(i) The Department may review and conduct independent audits concerning any submission under this chapter and make appropriate adjustments of the information in the submissions.**

**(j) The Department may deduct $CO_2$ allowances from or transfer $CO_2$ allowances to a $CO_2$ budget source's compliance account based on information in the submissions, as adjusted under (i) above.**

**7:27C-6.10 Banking**

**Each $CO_2$ allowance that is held in a compliance account or a general account will remain in such account unless and until the $CO_2$ allowance is deducted or transferred under N.J.A.C. 7:27C-4.2, 6.9, 6.11, or 7.**

**7:27C -6.11 Account error**

**The Department may, at its sole discretion and on its own motion, correct any error in any $CO_2$ Allowance Tracking System account. Within 10 business days of making such correction, the Department will notify the $CO_2$ authorized account representative for the account.**

**7:27C-6.12 Closing of general accounts**

**(a) A $CO_2$ authorized account representative of a general account may instruct the Department to close the account by submitting a statement requesting deletion of the account from the $CO_2$ Allowance Tracking System and by correctly submitting for recordation under N.J.A.C. 7:27C-7.1 a $CO_2$ allowance transfer of all $CO_2$ allowances in the account to one or more other $CO_2$ Allowance Tracking System accounts.**

**(b) If a general account shows no activity for a period of six or more years and does not contain any $CO_2$ allowances, the Department may notify the $CO_2$ authorized account representative of the account that the account will be closed in the $CO_2$ Allowance Tracking System 20 business days after the notice is sent. The Department will close the account after the 20-day period, unless before the end of the 20-day period the Department receives a correctly submitted transfer of $CO_2$ allowances into the account under N.J.A.C. 7:27C-7.1 or a statement submitted by the $CO_2$ authorized account representative demonstrating to the satisfaction of the Department good cause as to why the account should not be closed.**

**SUBCHAPTER 7. $CO_2$ ALLOWANCE TRANSFERS**

**7:27C-7.1 Submission of $CO_2$ allowance transfers**

**(a) A $CO_2$ authorized account representative seeking recordation of a $CO_2$ allowance transfer shall submit the transfer to the Department. The transfer shall include the following elements, in a format precscribed by the Department:**

**1. The numbers identifying both the transferor and transferee accounts;**

**2. A specification by serial number of each $CO_2$ allowance to be transferred;**

**3. The printed name and signature of the $CO_2$ 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 $CO_2$ allowance, if any; and**

**5. The purchase or sale price of the $CO_2$ allowances that are the subject of a sale or purchase transaction under (a)4 above.**

**7:27C-7.2 Recordation**

**(a) Within five business days of receiving a $CO_2$ allowance transfer, except as provided at (b) below, the Department will record a $CO_2$ allowance transfer by moving each $CO_2$ allowance from the transferor account to the transferee account as specified by the request, provided that:**

**1. The transfer is submitted in accordance with N.J.A.C. 7:27C-7.1; and**

**2. The transferor account includes each $CO_2$ allowance identified by serial number in the transfer.**

**(b) The Department will not record a $CO_2$ allowance transfer into or out of a compliance account that is submitted for recordation after the $CO_2$ allowance transfer deadline that includes any $CO_2$ allowances of allocation years falling within a control period prior to or the same as the control period to which the $CO_2$ allowance transfer deadline applies until after completion of the process at N.J.A.C. 7:27C-6.9(b).**

**(c) The Department will not record a $CO_2$ allowance transfer submitted for recordation that fails to meet the requirements of (a)1 and 2 above.**

**7:27C-7.3 Notification**

**(a) Within five business days of recordation of a $CO_2$ allowance transfer under N.J.A.C. 7:27C -7.2, the Department will notify each party to the transfer by giving notice to the $CO_2$ authorized account representatives of both the transferor and transferee accounts.**

**(b) Within 10 business days of receipt of a $CO_2$ allowance transfer that fails to meet the requirements of N.J.A.C. 7:27C-7.2(a), the Department will notify the $CO_2$ authorized account representatives of both accounts subject to the transfer of a decision not to record the transfer and the reasons for such non-recordation.**

**(c) Nothing in this section shall preclude the submission of a $CO_2$ allowance transfer for recordation following notification of non-recordation.**

**SUBCHAPTER 8 MONITORING, RECORDKEEPING AND REPORTING**

**7:27C-8.1 General requirements**

**(a) The owner, operator, and to the extent applicable, the $CO_2$ authorized account representative of a $CO_2$ budget unit, shall comply with the monitoring, recordkeeping and reporting requirements as provided in this subchapter and all applicable sections of 40 CFR Part 75 and all Appendices thereto, as specified in this subchapter, which are incorporated by reference herein. Where referenced in this subchapter, the monitoring requirements of 40 CFR Part 75 shall be adhered to in a manner consistent with the purpose of monitoring and reporting $CO_2$ mass emissions pursuant to this chapter. For purposes of complying with such requirements, the definitions in N.J.A.C. 7:27C-1.2 and in 40 CFR 72.2, as supplemented and amended, and which are incorporated by reference herein, apply, and the terms "affected unit" and "designated representative" in 40 CFR Part 75 are replaced by the terms "$CO_2$ budget unit" and "$CO_2$ authorized account representative," respectively. Furthermore, where the term "continuous emissions monitoring system" or "CEMS" is used in 40 CFR Part 75, the definition of that term at N.J.A.C. 7:27C-1.2 applies. For units not subject to an acid rain emissions limitation, the term "Administrator" in 40 CFR Part 75 shall be replaced with the term "the Department."**

**(b) The owner or operator of a $CO_2$ budget unit who monitors a non-$CO_2$ budget unit pursuant to the common, multiple, or bypass stack procedures in 40 CFR 75.16(b)(2)(ii)(B) or 75.72(b)(2)(ii), for the purpose of complying with this subchapter shall monitor and report $CO_2$ mass emissions from such non-$CO_2$ budget unit according to the procedures for $CO_2$ budget units established in this section through N.J.A.C. 7:27C-8.7.**

**(c) The owner or operator of each $CO_2$ budget unit shall:**

**1. Install all monitoring systems necessary to monitor $CO_2$ mass emissions in accordance with 40 CFR Part 75, except for equation G-1 of Appendix G, which shall not be used to determine $CO_2$ emissions. Compliance with this paragraph may require systems to monitor $CO_2$ concentration, stack gas flow rate, $O_2$ concentration, heat input, and fuel flow rate;**

**2. Successfully complete all certification tests required under N.J.A.C. 7:27C-8.2 and meet all other requirements of this subchapter and 40 CFR Part 75, applicable to the monitoring systems installed pursuant to (c)1 above; and**

**3. Record, report, and quality-assure the data from the monitoring systems required pursuant to (c)1 above.**

**(d) The owner or operator of a $CO_2$ budget unit shall meet the monitoring system certification and other requirements of (c) above on or before the following dates, and shall record, report, and quality-assure the data from the monitoring systems under (c)1 above on and after the applicable date, as follows:**

**1. For the owner or operator of a $CO_2$ budget unit that commences commercial operation before July 1, 2008, by January 1, 2009;**

**2. For the owner or operator of a $CO_2$ budget unit that commences commercial operation on or after July 1, 2008, by the later of the following dates:**

**i. January 1, 2009; or**

**ii. The earlier of 90 unit-operating days after the date on which the unit commences commercial operation, or 180 calendar days after the date on which the unit commences commercial operation; and**

**3. For the owner or operator of a $CO_2$ budget unit for which construction of a new stack or flue installation is completed after the applicable deadline under (d)1 or 2 above, by the earlier of:**

**i. Ninety unit-operating days after the date on which emissions first exit to the atmosphere through the new stack or flue; or**

**ii. One hundred eighty calendar days after the date on which emissions first exit to the atmosphere through the new stack or flue.**

**(e) Except as provided in (f) below, the owner or operator of a $CO_2$ budget unit that does not meet the applicable compliance date set forth in (d) above for any monitoring system under (c)1 above shall, for each such monitoring system, determine, record, and report maximum (or, as appropriate, minimum) potential values for $CO_2$ concentration, $CO_2$ emissions rate, stack gas moisture content, fuel flow rate, heat input, and any other parameter required to determine $CO_2$ mass emissions in accordance with 40 CFR 75.31(b)(2) or (c)(3) and section 2.4 of Appendix D of 40 CFR Part 75, as applicable.**

**(f) The owner or operator of a $CO_2$ budget unit that does not meet the applicable compliance date set forth in (d)3 above for any monitoring system under (c)1 above shall, for each such monitoring system, determine, record, and report substitute data using the applicable missing data procedures in 40 CFR Part 75, Subpart D, or Appendix D, in lieu of the maximum (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 (d)3 above.**

**(g) A $CO_2$ budget unit that is subject to an acid rain emissions limitation or the requirements of the Department's Clean Air Interstate Rule (CAIR) $NO_x$ Trading Program (set forth at N.J.A.C. 7:27-30) and that qualifies for the optional $SO_2$, $NO_X$, and $CO_2$ (for the Acid Rain Program) or $NO_x$ (for the Department's CAIR $NO_x$ Trading Program) emissions calculations for low mass emissions (LME) units under 40 CFR 75.19 and reports emissions for such programs using the calculations under 40 CFR 75.19, shall also use the $CO_2$ emissions calculations for LME units under 40 CFR 75.19 for purposes of compliance with this chapter.**

**(h) A $CO_2$ budget unit that is subject to an acid rain emissions limitation or the requirements of the Department's CAIR $NO_x$ Trading Program (set forth at N.J.A.C. 7:27-30) that does not qualify for the optional $SO_2$, $NO_X$, and $CO_2$ (for the Acid Rain Program) or $NO_x$ (for the Department's CAIR $NO_x$ Trading Program ) emissions calculations for LME units under 40 CFR 75.19, shall not use the $CO_2$ emissions calculations for LME units under 40 CFR 75.19 for purposes of compliance with this chapter.**

**(i) A $CO_2$ budget unit that is not subject to an acid rain emissions limitation or the requirements of the Department's CAIR $NO_x$ Trading Program (set forth at N.J.A.C. 7:27-30) shall qualify for the optional $CO_2$ emissions calculation for LME units under 40 CFR**

**75.19, provided that it emits less than 100 tons of $NO_X$ annually and no more than 25 tons of $SO_2$ annually.**

**(j) No owner or operator of a $CO_2$ budget unit shall:**

**1. 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 N.J.A.C. 7:27C-8.6;**

**2. Operate the $CO_2$ budget unit so as to discharge, or allow to be discharged, $CO_2$ emissions to the atmosphere without accounting for all such emissions in accordance with the applicable provisions of this subchapter and 40 CFR Part 75;**

**3. Disrupt the continuous emissions monitoring system, any portion thereof, or any other approved emissions monitoring method, and thereby avoid monitoring and recording $CO_2$ mass emissions discharged into the atmosphere, except for periods of recertification or periods when calibration, quality assurance testing, or maintenance is performed in accordance with the applicable provisions of this subchapter and 40 CFR Part 75; or**

**4. Retire or permanently discontinue use of the continuous emissions monitoring system, any component thereof, or any other approved emissions monitoring system under this subchapter, except under any of the following circumstances:**

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

**ii. The $CO_2$ authorized account representative submits notification of the date of certification testing of a replacement monitoring system in accordance with N.J.A.C. 7:27C-8.2(g).**

**7:27C-8.2 Initial certification and recertification procedures**

**(a) The owner or operator of a $CO_2$ budget unit is exempt from the initial certification, but not the recertification, requirements of this section for a monitoring system installed pursuant to N.J.A.C. 7:27C-8.1(c)1 if the monitoring system:**

**1. Has been previously certified in accordance with 40 CFR Part 75; and**

**2. Meets the applicable quality-assurance and quality-control requirements of 40 CFR 75.21 and Appendices B and D of 40 CFR Part 75.**

**(b) If the Administrator has previously approved a petition under 40 CFR 75.72(b)(2)(ii), or 40 CFR 75.16(b)(2)(ii)(B) as pursuant to 40 CFR 75.13 for apportioning the $CO_2$ emissions rate measured in a common stack or a petition under 40 CFR 75.66 for an alternative requirement in 40 CFR Part 75, the $CO_2$ authorized account representative shall submit the petition to the Department under N.J.A.C. 7:27C-8.6(a) to determine whether the approval applies under this program.**

**(c) Except as provided in (a) above, the owner or operator of a $CO_2$ budget unit shall comply with the initial certification and recertification procedures set forth below at (d)**

**through (*o*), for a continuous emissions monitoring system and an excepted monitoring system under Appendix D of 40 CFR Part 75. The owner or operator of a $CO_2$ budget 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 initial certification and recertification procedures set forth below at (p) or (q), respectively.**

**(d) The owner or operator of a $CO_2$ budget unit shall ensure, for each continuous emissions monitoring system required under N.J.A.C. 7:27C-8.1(c)1 (including the automated data acquisition and handling system) the successful completion of all of the initial certification testing required under 40 CFR 75.20 by the applicable deadlines specified in N.J.A.C. 7:27C-8.1(d). In addition, whenever the owner or operator installs a monitoring system in order to meet the requirements of this subchapter in a location where no such monitoring system was previously installed, initial certification in accordance with 40 CFR 75.20 is required.**

**(e) The owner or operator shall recertify a monitoring system in accordance with 40 CFR 75.20(b) whenever the owner or operator of a $CO_2$ budget unit makes the following replacement, modification, or changes:**

**1. A replacement, modification, or change to a certified continuous emissions monitoring system under N.J.A.C. 7:27C-8.1(c)1 that the Administrator or the Department determines significantly affects the ability of the system to accurately measure or record $CO_2$ mass emissions or heat input or to meet the quality-assurance and quality-control requirements of 40 CFR 75.21 or 40 CFR Part 75, Appendix B; or**

**2. For a system using stack measurements, such as stack flow, stack moisture content, $CO_2$ or $O_2$ monitors, 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. Examples of changes that require recertification include replacement of the analyzer, change in the location or orientation of the sampling probe or site, or changing of flow rate monitor polynomial coefficients.**

**(f) Subsections (g) through (n) below apply to both initial certification and recertification of a monitoring system under N.J.A.C. 7:27C-8.1(c)1. 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 (*o*) below.**

**(g) The $CO_2$ authorized account representative shall submit to the Department and the Administrator a written notice of the dates of certification in accordance with N.J.A.C. 7:27C-8.4.**

**(h) The $CO_2$ authorized account representative shall submit to the Department a certification application for each monitoring system. A complete certification application shall include the information specified in 40 CFR 75.63.**

**(i) The provisional certification date for a monitor shall be determined in accordance with 40 CFR 75.20(a)(3). A provisionally certified monitor may be used under the $CO_2$ Budget Trading Program for a period not to exceed 120 days after the Department receives the complete certification application for the monitoring system or component thereof under (h) above. Data measured and recorded by the provisionally certified monitoring system or component thereof, in accordance with the requirements of 40 CFR Part 75, will be considered valid quality-assured data (retroactive to the date and time of provisional certification), provided that the Department does not invalidate the provisional certification by issuing a notice of disapproval within 120 days of receipt of the complete certification application by the Department.**

**(j) The Department will issue a written notice of approval or disapproval of the certification application to the owner or operator within 120 days of receipt of the complete certification application under (h) above. In the event the Department does not issue such a notice within such 120-day period, each monitoring system which meets the applicable performance requirements of 40 CFR Part 75 and is included in the certification application will be deemed certified for use under the $CO_2$ Budget Trading Program.**

**(k) 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 will issue a written notice of approval of the certification application within 120 days of receipt.**

**(*l*) If the certification application is not complete, then the Department will issue a written notice of incompleteness that sets a reasonable date by which the $CO_2$ authorized account representative shall submit the additional information required to complete the certification application. If the $CO_2$ authorized account representative does not comply with the notice of incompleteness by the specified date, then the Department may disapprove the application and issue a notice of disapproval under (m) below. The 120-day review period specified at (j) above shall not begin before receipt of a complete certification application.**

**(m) 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 Department disapproves the application pursuant to (*l*) above, then the Department will issue a written notice of disapproval of the certification application. The issuance of such notice of disapproval invalidates the provisional certification, 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 (*o*) below, for each monitoring system, or component thereof, that the Department has disapproved for initial certification.**

**(n) The Department may issue a notice of disapproval of the certification status of a monitor in accordance with N.J.A.C. 7:27C-8.3(b).**

**(*o*) If the Department issues a notice of disapproval of a certification application under (m) above or a notice of disapproval of certification status under (n) above, then:**

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

**i. For a unit using or intending to monitor for $CO_2$ mass emissions using heat input, or for a unit using the low mass emissions excepted methodology under 40 CFR 75.19, as supplemented and amended and which is incorporated by reference herein, the maximum potential hourly heat input of the unit; or**

**ii. For a unit intending to monitor for $CO_2$ mass emissions using a $CO_2$ pollutant concentration monitor and a flow monitor, the maximum potential concentration of $CO_2$ and the maximum potential flow rate of the unit under section 2.1 of Appendix A of 40 CFR Part 75, as supplemented and amended and which is incorporated by reference herein;**

**2. The $CO_2$ authorized account representative shall submit a notification of certification retest dates and a new certification application in accordance with (g) and (h) above; and**

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

**(p) The owner or operator of a unit qualified to use the low mass emissions excepted methodology under N.J.A.C. 7:27C-8.1(g) shall meet the applicable certification and recertification requirements of 40 CFR 75.19(a)(2) and 75.20(h) and N.J.A.C 7:27C-8.2. 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).**

**(q) The $CO_2$ authorized account representative of each unit for which the owner or operator intends to use an alternative monitoring system approved by the Administrator and, if applicable, by 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).**

**7:27C-8.3 Out-of-control periods**

**(a) 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.**

**(b) 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 N.J.A.C. 7:27C-8.2 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 the Administrator will issue a notice of disapproval of the certification status of such monitoring system. An audit will 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 N.J.A.C. 7:27C-8.2 for each disapproved monitoring system.**

**7:27C-8.4 Notifications**

**The $CO_2$ authorized account representative for a $CO_2$ budget unit shall submit to the Department and the Administrator all written notice required by this subchapter in accordance with 40 CFR 75.61.**

**7:27C-8.5 Recordkeeping and reporting**

**(a) In addition to the requirements of N.J.A.C. 7:27C-2.1(e) and the recordkeeping and reporting requirements in this section, the $CO_2$ authorized account representative shall comply with all applicable recordkeeping and reporting requirements under 40 CFR 75.73.**

**(b) The owner or operator of a $CO_2$ budget unit shall submit a monitoring plan in the manner prescribed in 40 CFR 75.62.**

**(c) The $CO_2$ authorized account representative shall submit a certification or recertification application to the Department within 45 days after completing all $CO_2$ monitoring system initial certification or recertification tests required under N.J.A.C. 7:27C-8.2 including the information required under 40 CFR 75.53(g) and (h) and 75.63.**

**(d) The $CO_2$ authorized account representative shall submit quarterly reports, as follows:**

**1. The $CO_2$ authorized account representative shall report the $CO_2$ mass emissions data for the $CO_2$ 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 beginning January 1, 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 N.J.A.C. 7:27C-8.1(d). If the calendar quarter so determined is the third or fourth quarter of 2008, reporting shall commence in the quarter beginning January 1, 2009;**

**2. The $CO_2$ authorized account representative shall submit each quarterly report to the Department 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 $CO_2$ 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 $SO_2$ provisions; and**

**3. The $CO_2$ authorized account representative shall submit to the Department 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. In addition, the $CO_2$ authorized account representative shall certify:**

**i. The monitoring data submitted were recorded in accordance with the applicable requirements of this chapter and 40 CFR Part 75, including the quality assurance procedures and specifications;**

**ii. For a unit with add-on $CO_2$ 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 $CO_2$ emissions; and**

**iii. The $CO_2$ concentration values substituted for missing data under Subpart D of 40 CFR Part 75 do not systematically underestimate $CO_2$ emissions.**

**7:27C-8.6 Petitions**

**(a) Except as provided in (c) below, the $CO_2$ authorized account representative of a $CO_2$ budget unit that is subject to an acid rain emissions limitation may submit a petition to the Administrator under 40 CFR 75.66, as supplemented and amended and which is incorporated by reference herein, 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 this subchapter only to the extent that the petition is approved in writing by the Administrator and subsequently approved in writing by the Department.**

**(b) The $CO_2$ authorized account representative of a $CO_2$ 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 this subchapter only to the extent that the petition is**

**approved in writing by the Administrator and subsequently approved in writing by the Department.**

**(c) The $CO_2$ authorized account representative of a $CO_2$ budget unit that is subject to an acid rain emissions limitation may submit a petition to the Administrator under 40 CFR 75.66, as supplemented and amended and which is incorporated by reference herein, and to the Department requesting approval to apply an alternative to a requirement concerning any additional CEMS required under the common stack provisions of 40 CFR 75.72 or a $CO_2$ concentration CEMS used under 40 CFR 75.71(a)(2). Application of an alternative to any such requirement is in accordance with this subchapter only to the extent the petition is approved in writing by the Administrator and subsequently approved in writing by the Department.**

**7:27C-8.7 $CO_2$ budget units that co-fire eligible biomass**

**(a) The $CO_2$ authorized account representative of a $CO_2$ budget unit that co-fires eligible biomass as a compliance mechanism under this chapter shall report the following information to the Department for each calendar quarter:**

**1. For each shipment of solid eligible biomass fuel fired at the $CO_2$ budget unit, the total eligible biomass fuel input, on an as-fired basis, in pounds;**

**2. For each shipment of solid eligible biomass fuel fired at the $CO_2$ budget unit, the moisture content, on an as-fired basis, as a fraction by weight;**

**3. For each distinct type of gaseous eligible biomass fuel fired at the $CO_2$ budget unit, the density of the biogas, on an as-fired basis, in pounds per standard cubic foot;**

**4. For each distinct type of gaseous eligible biomass fuel fired at the $CO_2$ budget unit, the moisture content of the biogas, on an as-fired basis, as a fraction by weight;**

**5. For each distinct type of gaseous eligible biomass fuel fired at the $CO_2$ budget unit, the total eligible biomass fuel input, in standard cubic feet;**

**6. For each distinct type of eligible biomass fuel fired at the $CO_2$ budget unit, the dry basis carbon content of the fuel type, as a fraction by dry weight;**

**7. For each distinct type of eligible biomass fuel fired at the $CO_2$ budget unit, the dry basis higher heating value, in MMBtu per dry pound;**

**8. For each distinct type of eligible biomass fuel fired at the $CO_2$ budget unit, the total dry basis eligible biomass fuel input, in pounds, calculated in accordance with (b) below;**

**9. The total $CO_2$ emitted from the $CO_2$ budget unit due to firing eligible biomass fuel, in tons, calculated in accordance with (c) below;**

**10. For each distinct type of eligible biomass fuel fired at the $CO_2$ budget unit, the total eligible biomass fuel heat input, in MMBtu, calculated in accordance with (d)1 below;**

**11. The total heat input to the $CO_2$ budget unit due to firing eligible biomass fuel, in MMBtu, calculated in accordance with (d)(2) below;**

**12. A description and documentation of the monitoring technology employed, and a description and documentation of the fuel sampling methodology employed, including sampling frequency; and**

**13. For each distinct type of eligible biomass fuel fired at the $CO_2$ budget unit, a chemical analysis, including heating value and carbon content.**

**(b) An owner or operator of a $CO_2$ budget unit shall calculate and submit to the Department on a quarterly basis the total dry weight for each distinct type of eligible biomass fired by the $CO_2$ budget unit during the reporting quarter. The total dry weight shall be determined for each fuel type as follows:**

**1. For solid fuel types:**

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

**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**
**n = number of shipments; and**

**2. For gaseous fuel types:**

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

**where:**

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

**(c) $CO_2$ emissions due to firing of eligible biomass shall be determined as follows:**

**1. For any full calendar quarter during which no fuel other than eligible biomass is fired at the $CO_2$ budget unit, as measured and recorded in accordance with N.J.A.C. 7:27C-8.1 through 8.6; or**

**2. For any full calendar quarter during which fuels other than eligible biomass are fired at the $CO_2$ budget unit, as determined using the following equation:**

$$CO_2 \text{ tons} = \sum_{j=1}^{n} F_j \times C_j \times O_j \times 44/12 \times 0.0005$$

**where:**

**$CO_2$ tons = $CO_2$ 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 (b) above;**
**$C_j$ = 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 (a)13 above; 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;**
**0.0005 = The number of short tons which is equal to one pound;**
**j = fuel type; and**
**n = number of distinct fuel types.**

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

**1. For each distinct fuel type:**

$$H_j = F_j \times HHV_j$$

**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 at (b) above;**
**$HHV_j$ = Higher heating value (MMBtu/lb), dry basis, for fuel type j, as determined through chemical analysis pursuant to (a)13 above;**
**j = fuel type; and**

**2. For all fuel types:**

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

**where:**
**$H_j$ = Heat input (MMBtu) for fuel type j;**
**j = fuel type; and**
**n = number of distinct fuel types.**

**(e) Fuel sampling methods and fuel sampling technology shall be consistent with the New York State Renewable Portfolio Standard Biomass Guidebook, May 2006, as supplemented and amended and which is incorporated by reference herein. A copy may be obtained from the New York State Energy Research and Development Authority's website at http://www.nyserda.org/rps/RPS_Biomass_Guide.pdf.**

**7:27C-8.8 Additional requirements to provide output data**

**(a) A $CO_2$ budget source shall report net electric output and net thermal output to the Department pursuant to (b) through (i) below.**

**(b) A $CO_2$ budget unit that participates in a wholesale electricity market administered by PJM or NYISO shall submit to the Department the same megawatt-hour value submitted to PJM or NYISO to document megawatt-hours of electrical output and a statement certifying that the megawatt-hours of electrical output reported reflects the total actual electrical output for the $CO_2$ budget unit used by PJM or NYISO to determine settlement of transactions among wholesale electricity market participants.**

**(c) A $CO_2$ budget unit that does not participate in a wholesale electricity market administered by PJM or NYISO shall report net electrical output in accordance with an output monitoring plan approved by the Department pursuant to (e) below.**

**(d) A $CO_2$ budget source that sells steam shall use billing meters to determine and report net steam output. A $CO_2$ budget source for which steam output is not measured by billing meters or for which steam output is combined with output from a non-$CO_2$ budget unit prior to measurement by the billing meter shall report net steam output in accordance with an output monitoring plan approved by the Department pursuant to (e) below. If data for steam output is not available, the $CO_2$ budget source shall report heat input providing useful steam output as a surrogate for steam output in accordance with an output monitoring plan approved by the Department pursuant to (e) below.**

**(e) Each $CO_2$ budget source shall submit to the Department for approval an output monitoring plan that includes a diagram and description as stated below:**

**1. A diagram of the electrical and/or steam system, as applicable, for which output is being monitored, as follows:**

**i. For monitoring net electric output, the diagram must contain all $CO_2$ budget units and all electric generators served by each $CO_2$ budget unit and the relationship between $CO_2$ budget units and electric generators. If an electric generator served by a $CO_2$ budget unit is also served by a non-affected unit, the non-affected unit and its relationship to each electric generator shall be indicated on the diagram as well. The diagram shall indicate where the net electric output is measured and include all electrical inputs and outputs to and from the facility. If net electric output is determined using a billing meter, the diagram shall show each billing meter used to determine net sales of electricity and show that all electricity measured at the point of sale is generated by the $CO_2$ budget unit; or**

**ii. For monitoring net thermal output, the diagram must include all steam or hot water coming into the net steam system, including steam from $CO_2$ budget units and non-affected units, and all exit points of steam or hot water from the net steam system. In addition, each input and output stream must have an estimated temperature, pressure, and phase indicator, and an enthalpy in Btu/lb. The diagram of the net steam system must identify all steam loads, including, but not limited to, useful loads, house loads, parasitic loads, and all boiler feedwater returns. The diagram must represent all energy losses in the system as either usable or unusable losses. The diagram must 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 shall show the monitoring equipment used to determine the sales of steam;**

**2. A description of each output monitoring system. The description of the output monitoring system must 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 must be included;**

**3. A detailed description of all quality assurance and quality control activities that will be performed to maintain the output system in accordance with (g) below; and**

**4. Documentation supporting any output value(s) to be used as a missing data value should there be periods of invalid output data. The missing data output value must be either zero or an output value that is likely to be lower than a measured value.**

**(f) The $CO_2$ authorized account representative for the $CO_2$ budget source shall submit a certification, which may be submitted with the certification application required under N.J.A.C. 7:27C-8.5(d), stating that the output monitoring system either consists entirely of billing meters or meets one of the accuracy requirements for non-billing meters at (f)2 below. The certification shall state that the monitoring system meets the following requirements, as applicable:**

**1. The billing meter must record the electric or thermal output. Any electric or thermal output values that the $CO_2$ budget source reports must be the same as the values used in billing for the output. Any output measurement equipment used as a billing meter in commercial transactions requires no additional certification or testing; or**

**2. For non-billing meters, the output monitoring system must either meet an accuracy of within 10.0 percent of the reference value (a system approach to accuracy), or each component monitor for the output system must meet an accuracy of within 3.0 percent of the full scale value (a component approach to accuracy), whichever is less stringent, as follows:**

**i. The system approach to accuracy must include a determination of how the system accuracy of 10.0 percent is achieved using the individual components in the system and 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; or**

**ii. If testing a piece of output measurement equipment pursuant to the component approach to accuracy shows that the output readings are not accurate to within 3.0 percent of the full scale value, then the equipment shall be repaired or replaced to meet that requirement.**

**(g) Ongoing quality assurance and quality control (QA/QC) activities shall be performed in order to maintain the output system in accordance with the following:**

**1. Where billing meters are used to determine output, no QA/QC activities beyond what are already performed are required;**

**2. Where non-billing meters are used to determine output, certain types of equipment such as potential transformers, current transformers, nozzle and venturi type meters, and the primary element of an orifice plate only require an initial certification of calibration and do not require periodic recalibration unless the equipment is physically changed. However, the pressure and temperature transmitters accompanying an orifice plate shall be periodically retested. For other types of equipment, recalibration or reverification of the meter accuracy shall be performed at least once every two years (that is, at least once every eight calendar**

**quarters), unless a consensus standard, approved by the Department as part of an output monitoring plan at (e) above, allows for less frequent calibrations or accuracy tests. For non-billing meters, the output monitoring system must either meet an accuracy of within 10.0 percent of the reference value, or each component monitor for the output system must meet an accuracy of within 3.0 percent of the full scale value, whichever is less stringent. If testing a piece of output measurement equipment shows that the output readings are not accurate to within 3.0 percent of the full scale value, then the equipment shall be repaired or replaced to meet that requirement; and**

**3. If testing a piece of output measurement equipment shows that the output readings are not accurate to the certification value at (f)2 above, as applicable, 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 output monitoring plan required under (e) above.**

**(h) The owner or operator of a $CO_2$ budget source shall retain data used to monitor, determine, or calculate net electrical output and net thermal output for 10 years.**

**(i) The $CO_2$ authorized account representative shall submit annual output reports, as follows:**

**1. The data shall be submitted to the Department both electronically and in hardcopy by the March 1 following the immediately preceding calendar year;**

**2. The annual report shall include unit level megawatt-hours and all useful steam output; and**

**3. The annual report shall include a certification from the $CO_2$ authorized account representative stating the following:**

**"I am authorized to make this submission on behalf of the owners and operators of the $CO_2$ budget source or $CO_2$ budget units at the $CO_2$ budget source 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."**

## SUBCHAPTER 9. (RESERVED)

## SUBCHAPTER 10. $CO_2$ EMISSIONS OFFSET PROJECTS

### 7:27C-10.1 Purpose

**The Department will provide for the award of $CO_2$ offset allowances to sponsors of $CO_2$ emissions offset projects or $CO_2$ emissions credit retirements that have reduced or avoided atmospheric loading of $CO_2$, $CO_2$ equivalent, or sequestered carbon as demonstrated in accordance with the applicable provisions of this subchapter. The requirements of this subchapter are designed to ensure that $CO_2$ offset allowances awarded represent $CO_2$-equivalent emission reductions, avoided $CO_2$-equivalent emissions, or carbon sequestration that is real, additional, verifiable, enforceable, and permanent within the framework of a standards-based approach. Subject to the relevant compliance deduction limitations at N.J.A.C. 7:27C-6.9(a)3, any $CO_2$ budget source may use $CO_2$ offset allowances for compliance purposes.**

**7:27C-10.2 Definitions**

**The following words and terms, when used in this subchapter, have the following meanings, unless the context clearly indicates otherwise.**

**"Accredited independent verifier" means an independent verifier who has been accredited by the Department pursuant to N.J.A.C. 7:27C-10.10.**

**"Afforestation" means the direct human-induced conversion of land from a non-forested state to a forested state.**

**"AFUE" means annual fuel utilization efficiency, which is a measure of heating efficiency on an annual basis, based on the heat transferred to the conditioned space divided by the fuel energy supplied, as determined pursuant to U.S. Department of Energy testing procedures specified at 10 Part CFR 430, Subpart B, Appendix N, incorporated by reference herein.**

**"Allocation period" means the number of years for which an offset project that has received a consistency determination pursuant to N.J.A.C. 7:27C-10.4(i) is qualified for the award of $CO_2$ offset allowances pursuant to N.J.A.C. 7:27C-10.11(a).**

**"Animal unit" means a unit for measuring animal inventories, where one animal unit is equal to 1,400 pounds of animal live weight.**

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

**"Anaerobic digestion" means the degradation of organic material, such as manure, brought about through the action of microorganisms in the absence of elemental oxygen.**

**"Anaerobic storage" means the 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" means the American National Standards Institute.**

**"ANSI/ASHRAE/IESNA Standard 90.1-2007" means ANSI/ASHRAE/ IESNA Standard 90.1-2007: Energy Standard for Buildings Except Low-Rise Residential Buildings, I-P Edition, as supplemented and amended and incorporated by reference herein, which is available from the American Society of Heating, Refrigerating and Air-Conditioner Engineers at http://www.ashrae.org.**

**"ASHRAE" means the American Society of Heating, Refrigerating and Air-Conditioner Engineers.**

**"ASHRAE Guideline 14-2002" means ASHRAE Guideline 14-2002, Measurement of Energy and Demand Savings, as supplemented and amended and incorporated by reference herein, which is available from the American Society of Heating, Refrigerating and Air-Conditioner Engineers at http://www.ashrae.org.**

**"Biogas" means gas resulting from the decomposition of organic matter under anaerobic conditions, the principle constituents of which are methane and carbon dioxide.**

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

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

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

**"Carbon pool" means a reservoir that has the ability to accumulate and store carbon.**

**"Carbon stock" means the quantity of carbon in a carbon pool.**

**"$CO_2e$" means carbon dioxide equivalent.**

**"$CO_2$ emissions credit retirement" means the permanent retirement of greenhouse gas allowances or credits issued pursuant to any governmental mandatory carbon-constraining program outside the United States that places a specific tonnage limit on greenhouse gas emissions, provided the allowances or credits are acceptable and valid for use in that program at the time of the filing of the consistency application under N.J.A.C. 7:27C-10.4,**

**or certified greenhouse gas emissions reduction credits issued pursuant to the United Nations Framework Convention on Climate Change (UNFCCC) or protocols adopted through the UNFCCC process.**

**"Commercial building" means a building to which the provisions of ANSI/ASHRAE/IESNA Standard 90.1 apply, which includes buildings other than low-rise residential buildings.**

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

**"Cooperating regulatory agency" means a regulatory agency in a state or United States jurisdiction, other than a participating state, that has entered into a memorandum of understanding with the appropriate regulatory agencies of all participating states to carry out certain obligations relative to $CO_2$ 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 to report violations of this subchapter to the Department.**

**"Energy conservation measure" or "ECM" or "energy efficiency measure" or "EEM" means a set of activities designed to increase the energy efficiency of a building or improve the management of energy demand. An ECM/EEM may involve, but is not limited to, one or more of the following: physical changes to facility equipment, modifications to a building, revisions to operating and maintenance procedures, software changes, or new means of training or managing users of the building or operations and maintenance staff.**

**"Energy factor" means the efficiency ratio of the energy supplied in heated water divided by the energy input to the water heater, as determined pursuant to U.S. Department of Energy testing procedures specified at 10 CFR Part 430, Subpart B, Appendix E, incorporated by reference herein.**

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

**"Energy services" means services provided to building occupants, such as heating and hot water, cooling, and lighting, which entail the use of energy.**

**"Forested condition" means a condition whereby land:**

**1. Is at least 1.0 acre in size and 120.0 feet wide measured stem-to-stem from the outer-most edge. Forested strips must be 120.0 feet wide for a continuous length of at least 363.0 feet in order to meet the acre threshold; and**

**2. Meets at least one of the two following stocking criteria:**

**i. The land is at least 10 percent stocked by trees of any size or has been at least 10 percent stocked in the past, and is not subject to non-forest use(s)**

**that prevent normal tree regeneration and succession such as regular mowing, intensive grazing, or recreation activities; or**
**ii. In the case of several western woodland species where stocking cannot be determined, the land has at least five percent crown cover by trees of any size, or has had at least five percent crown cover in the past, and the condition is not subject to non-forest use that prevents normal tree regeneration and succession such as regular mowing, chaining, or recreation activities.**

**"Furnace (residential)" means a self-contained, indirect-fired appliance that supplies heated air to a residential or commercial building through ducts to conditioned spaces and that has a heat input rate of less than 225,000 Btu/hr.**

**"HVAC system" means a 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" means the Illuminating Engineering Society of North America.**

**"Market penetration rate" means a measure of the diffusion of a technology, product, or practice in a defined market, as represented by the percentage of annual sales for a product or practice, or as a percentage of the existing installed stock for a product or category of products, or as the percentage of existing installed stock that utilizes a practice.**

**"New building" means a newly constructed building designed to replace an existing building on an offset project site, or a newly constructed building designed to be a zero net energy building.**

**"Non-census water" means streams, sloughs, estuaries, and canals more than 120 feet and less than one-eighth of a mile (680 feet) wide and lakes, reservoirs, and ponds up to and including 40 acres in size.**

**"Non-forested condition" means a condition whereby land does not meet the definition of "forested condition." Non-forested land includes areas used for crops, improved pasture, residential areas, city parks, improved roads of any width and adjoining rights-of-way, power line clearings of any width, and non-census water. If intermingled in forest areas, unimproved roads and non-forest strips must be more than 120.0 feet wide, and clearings more than one acre in size, to qualify as non-forested land.**

**"Offset project" means all equipment, materials, items, or actions directly related to the reduction of $CO_2$ equivalent emissions, avoidance of $CO_2$-equivalent emissions, or the sequestration of carbon specified in a consistency application submitted pursuant to N.J.A.C. 7:27C-10.4. Equipment, materials, items, or actions unrelated to an offset project reduction of $CO_2$ equivalent emissions, avoidance of $CO_2$-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, except as set forth at N.J.A.C. 7:27C-10.5 through 10.9.**

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

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

**"Permanent retirement" means, for a $CO_2$ emissions credit retirement, the placement of a greenhouse gas allowance or credit in a retirement account controlled by the jurisdiction that generated the allowance or credit, or in an allowance retirement account controlled by the Department, or the determination by the Department that the greenhouse gas allowance or credit has otherwise been rendered unusable.**

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

**"Project sponsor" means the sponsor of an offset project or $CO_2$ emissions credit retirement under this subchapter.**

**"Regional-type anaerobic digester" means an anaerobic digester that uses feedstock from more than one agricultural operation, or that imports feedstock from more than one agricultural operation. A regional-type anaerobic digester is also commonly referred to as a "community digester" or "centralized digester."**

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

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

**"Residential Energy Services Network" or "RESNET" means an industry not-for-profit membership corporation that acts as a national standards-making body for building energy efficiency rating systems.**

**"$SF_6$-containing operating equipment" means any equipment used for the transmission and distribution of electricity that contains sulfur hexafluoride ($SF_6$).**

**"System benefit fund" means any fund made up of revenue collected directly from retail electricity or natural gas ratepayers through retail energy bills.**

**"Total solids" means the total of all solids in a sample, including the total suspended solids, total dissolved solids, and volatile suspended solids.**

**"Transmission and/or distribution entity" means the assets and equipment used to transmit and distribute electricity from an electric generator to the electrical load of a customer. "Transmission and/or distribution entity" 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.**

**"Verification" means the confirmation by an accredited independent verifier that certain parts of a $CO_2$ emissions offset project consistency application and/or measurement, monitoring or verification report conforms to the requirements of this subchapter.**

**"Volatile solids" means the portion of total solids that is comprised primarily of organic matter.**

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

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

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

**7:27C-10.3 General requirements**

**(a) Any of the following types of offset projects are eligible for the award of $CO_2$ offset allowances, provided they have otherwise satisfied all the applicable requirements of this subchapter:**

**1. Landfill methane capture and destruction;**
**2. Reduction in emissions of sulfur hexafluoride ($SF_6$);**
**3. Sequestration of carbon due to afforestation;**
**4. Reduction or avoidance of $CO_2$ emissions from natural gas, oil, or propane end-use combustion due to end-use energy efficiency; and**
**5. Avoided methane emissions from agricultural manure management operations.**

**(b) To qualify for the award of $CO_2$ offset allowances, an offset project must be located:**

**1. In New Jersey;**

**2. Partly in New Jersey and partly in one or more other participating states, provided that more of the $CO_2$-equivalent emissions reduction, avoided $CO_2$-equivalent emissions or carbon sequestration due to the offset project is projected to occur in New Jersey than in any other participating state; or**

**3. In any state or United States jurisdiction in which a cooperating regulatory agency has entered into a memorandum of understanding with the appropriate regulatory agencies of all participating states to carry out certain obligations relative to $CO_2$ 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 to report violations of this subchapter.**

**(c) To qualify for the award of $CO_2$ offset allowances, the sponsor of a $CO_2$ emissions credit retirement shall satisfy all the applicable requirements of this subchapter.**

**(d) The Department will only award $CO_2$ offset allowances for $CO_2$ emissions credit retirements after the occurrence of a stage-two trigger event.**

**(e) Any person meeting the requirements of N.J.A.C. 7:27C-10.4 may act as the sponsor of an eligible $CO_2$ emissions offset project or offset project credit retirement.**

**(f) Except as provided at N.J.A.C. 7:27C-10.5 through 10.9, the Department will not award $CO_2$ offset allowances to:**

**1. An offset project or $CO_2$ emissions credit retirement that is required pursuant to any local, state or Federal law, regulation, or administrative or judicial order. If an offset project has been issued a consistency determination under N.J.A.C. 7:27C-10.4 and is later required by local, state or Federal law, regulation, or administrative or judicial order, then the offset project shall remain eligible for the award of $CO_2$ offset allowances until the end of its current allocation period, described at (g) and (h) below, but its eligibility shall not be extended for an additional allocation period;**

**2. An offset project that includes an electric generation component, unless the project sponsor transfers legal rights to any and all attribute credits (other than the $CO_2$ offset allowances awarded under N.J.A.C. 7:27C-10.11) generated from the operation of the offset project that may be used for compliance with a renewable portfolio standard or other regulatory requirement, to the Department;**

**3. An offset project that receives funding or other incentives from any system benefit fund, or funds, or other incentives provided through revenue from the auction or sale of $CO_2$ allowances in the consumer benefit account pursuant to N.J.A.C. 7:27C-5.4(a) or (b); and**

**4. An offset project or $CO_2$ emissions credit retirement that is awarded credits or allowances under any other mandatory or voluntary greenhouse gas program.**

**(g) Except as provided in (h) below, the Department will award $CO_2$ offset allowances under N.J.A.C. 7:27C-10.11 for an initial 10-year allocation period. At the end of the initial**

**10-year allocation period, the Department will award $CO_2$ offset allowances under N.J.A.C. 7:27C-10.11 for a second 10-year allocation period, provided the offset sponsor has submitted a consistency application pursuant to N.J.A.C. 7:27C-10.4 prior to the expiration of the initial allocation period, and the Department has issued a consistency determination pursuant to N.J.A.C. 7:27C-10.4(i).**

**(h) The Department will award $CO_2$ offset allowances under N.J.A.C. 7:27C-10.11 for an afforestation offset project for an initial 20-year allocation period. At the end of the initial 20-year allocation period, the Department will award $CO_2$ offset allowances under N.J.A.C. 7:27C-10.11 for a second 20-year allocation period, provided the offset sponsor has submitted a consistency application for the afforestation offset project pursuant to N.J.A.C. 7:27C-10.4 prior to the expiration of the initial allocation period, and the Department has issued a consistency determination pursuant to N.J.A.C. 7:27C-10.4(i). At the end of the second 20-year allocation period, the Department will award $CO_2$ offset allowances under N.J.A.C. 7:27C-10.11 for a third 20-year allocation period, provided the offset sponsor has submitted a consistency application for the afforestation offset project pursuant to N.J.A.C. 7:27C-10.4 prior to the expiration of the second allocation period, and the Department has issued a consistency determination pursuant to N.J.A.C. 7:27C-10.4(i). In no event will the Department award $CO_2$ offset allowances under N.J.A.C. 7:27C-10.11 to an afforestation offset project for more than a total of 60 allocation years.**

**(i) The Department will award $CO_2$ offset allowances under N.J.A.C. 7:27C-10.11 only for offset projects that are initially commenced on or after December 20, 2005.**

**(j) A project sponsor shall provide the Department, in writing, an access agreement granting the Department access to the physical location of the offset project to inspect for compliance with this subchapter. For an offset project located in a state or United States jurisdiction that is not a participating state, the project sponsor shall also provide the Department, in writing, an access agreement granting the cooperating regulatory agency access to the physical location of the offset project to inspect for compliance with this subchapter.**

**(k) If at any time the Department determines that a project sponsor has not complied with the requirements of this subchapter, the Department may revoke and retire any and all $CO_2$ 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 this subchapter, then the Department may revoke any approvals it has issued relative to the offset project.**

**7:27C-10.4 Consistency application process**

**(a) The sponsor of an offset project or $CO_2$ emissions credit retirement shall establish a general account under N.J.A.C. 7:27C-6.2(b).**

**(b) All submissions to the Department required for the award of $CO_2$ offset allowances under this subchapter shall be from the $CO_2$ authorized account representative for the**

**general account of the sponsor of the relevant offset project or $CO_2$ emissions credit retirement.**

**(c) A consistency application for an offset project must be submitted, in a format prescribed by the Department, and consistent with the requirements of this section, by the following deadlines:**

**1. For an offset project commenced prior to January 1, 2009, by June 30, 2009; and**

**2. For an offset project commenced on or after January 1, 2009, by the date that is 180 days after the commencement of the offset project.**

**(d) The Department will deny any consistency application that fails to meet the deadlines of (c) above.**

**(e) A consistency application for an offset project shall include:**

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

**2. The offset project description, as required by the relevant provisions of N.J.A.C. 7:27C-10.5 through 10.9;**

**3. A demonstration that the offset project meets all applicable requirements of this subchapter;**

**4. The emissions baseline determination as required by the relevant provisions of N.J.A.C. 7:27C-10.5 through 10.9;**

**5. An explanation of how the projected reduction or avoidance of atmospheric loading of $CO_2$ or $CO_2$ equivalent or the sequestration of carbon is to be quantified, monitored, and verified as required by the relevant provisions of N.J.A.C. 7:27C-10.5 through 10.9;**

**6. A completed consistency application agreement signed by the project sponsor that reads as follows: "I, the undersigned project sponsor (name) recognize and accept that the application for, and the receipt of, $CO_2$ offset allowances under the $CO_2$ Budget Trading Program is predicated on the project sponsor following all the requirements of N.J.A.C. 7:27C-10. I, the undersigned project sponsor, hereby certify that I hold the legal rights to the offset project, or have been granted the right to act on behalf of a party that holds the legal rights to the offset project. I understand that eligibility for the award of $CO_2$ offset allowances under N.J.A.C. 7:27C-10 is contingent on meeting the requirements of N.J.A.C. 7:27C-10. I authorize the Department 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 includes the right to enter the physical location of the offset project. With regard to any legal dispute under this subchapter, I submit to the jurisdiction of the State of New Jersey and all such disputes will be subject to applicable New Jersey law";**

**7. A statement and certification report signed by the offset project sponsor certifying that all offset projects for which the sponsor has received $CO_2$ offset allowances under this subchapter (or similar provisions in the rules of other participating states), under the sponsor's ownership or control (or under the ownership or control of any entity which controls, is controlled by, or has common**

**control with the sponsor) are in compliance with all applicable requirements of the $CO_2$ Budget Trading Program in all participating states;**

**8. A verification report and certification signed by an accredited independent verifier that expresses that the accredited independent verifier has reviewed the entire application and evaluated the following in relation to the applicable requirements at N.J.A.C. 7:27C-10.3 and 10.5 through 10.9, 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 requirements of N.J.A.C. 7:27C-10.3, and 10.5 through 10.9;**

**ii. The adequacy and validity of information supplied by the project sponsor to demonstrate baseline emissions pursuant to the applicable requirements at N.J.A.C. 7:27C-10.5 through 10.9;**

**iii. The adequacy of the monitoring and verification plan submitted pursuant to the applicable requirements at N.J.A.C. 7:27C-10.5 through 10.9; and**

**iv. Such other evaluations and statements as may be required by the Department to fully review whether the offset project meets the applicable requirements of N.J.A.C. 7:27C-10;**

**9. Disclosure of any voluntary or mandatory programs, other than the $CO_2$ Budget Trading Program, pursuant to which greenhouse gas emissions data related to the offset project has been, or will be reported; and**

**10. For an offset project 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.**

**(f) A consistency application for a $CO_2$ emissions credit retirement shall be submitted in a format prescribed by the Department and shall include sufficient information to demonstrate that the $CO_2$ emissions credit is eligible pursuant to N.J.A.C. 7:27C-10.3(f), was lawfully held by the project sponsor, and has been permanently and irrevocably retired.**

**(g) The Department will not accept as submitted a consistency application for an offset project or $CO_2$ emissions credit retirement if:**

**1. 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 the participating state solely because more of the $CO_2$ equivalent emissions reduction or carbon sequestration due to the offset project is projected to occur in New Jersey than in any other participating state; or**

**2. A consistency application has already been submitted for the same $CO_2$ emissions credit retirement in another participating state.**

**(h) Within 30 days following the receipt of the consistency application filed pursuant to (c) or (f) above, the Department will notify the project sponsor whether the consistency application is complete. A complete consistency application is one that is in a form**

**prescribed by the Department and is determined by the Department to contain all applicable information and documentation required by this subchapter. 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 (i) below.**

**(i) Within 90 days of making the completeness determination under (h) above, the Department will issue a determination as to whether the offset project or $CO_2$ emissions credit retirement is consistent with the requirements of N.J.A.C. 7:27C-10.3 and 10.4 and the requirements of the applicable offset project standards of N.J.A.C. 7:27C-10.5 through 10.9. For any offset project or $CO_2$ emissions credit retirement found to be consistent with these requirements, the Department will issue a consistency determination to the project sponsor. For any offset project found to lack consistency with these requirements, the Department will inform the project sponsor of the offset project's deficiencies.**

**7:27C-10.5 $CO_2$ emissions offset project standards – landfill methane ($CH_4$) capture and destruction**

**(a) To qualify for the award of $CO_2$ offset allowances, in addition to satisfying the other applicable requirements of this subchapter, an offset project that captures and destroys methane from landfills shall meet the requirements of (b) through (f) below.**

**(b) An offset project under this section shall occur at a landfill that is not subject to the New Source Performance Standards for municipal solid waste landfills, 40 CFR Part 60, Subpart Cc and Subpart WWW;**

**(c) 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 requirements of (b) above. The project narrative shall include the following:**

**1. Identification of the owner and operator of the offset project;**

**2. The location and specifications of the landfill where the offset project will occur, including waste in place;**

**3. Identification of the owner and operator of the landfill where the offset project will occur; and**

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

**(d) The emissions baseline shall represent the potential fugitive landfill emissions of methane (in tons of $CO_2e$), as represented by the methane collected and metered for thermal destruction as part of the offset project, and shall be calculated as follows:**

**Emissions (tons $CO_2e$) = (V x M x (1-OX) x GWP)/2000**

**where:**

**V = Volume of $CH_4$ collected ($ft^3$);**

**M = Mass of $CH_4$ per cubic foot (0.04246 lbs/$ft^3$ default value at one atmosphere and 20 degrees Celsius);**

**OX = Oxidation factor (0.10), representing estimated portion of collected $CH_4$ that would have eventually oxidized to $CO_2$ if not collected; and**
**GWP = $CO_2e$ global warming potential of $CH_4$ (23)**

**(e) Emissions reductions shall be determined based on potential fugitive methane emissions that would have occurred at the landfill if metered methane collected from the landfill for thermal destruction as part of the offset project was not collected and destroyed. $CO_2e$ emissions reductions shall be calculated as follows:**

**Emissions Reductions (tons $CO_2e$) = (V x M x (1 - OX) x $C_{ef}$ x GWP)/2000**
**where:**
**V = Volume of $CH_4$ collected ($ft_3$);**
**M = Mass of $CH_4$ per cubic foot (0.04246 lbs/$ft^3$ default value at one atmosphere and 20 degrees Celsius);**
**OX = Oxidation factor (0.10), representing estimated portion of collected $CH_4$ that would have eventually oxidized to $CO_2$ if not collected;**
**$C_{ef}$ = Combustion efficiency of methane control technology (0.98); and**
**GWP = $CO_2e$ global warming potential of $CH_4$ (23)**

**(f) An offset project under this section shall employ a landfill gas collection system that provides continuous metering and data computation of landfill gas volumetric flow rate and methane concentration. Annual monitoring and verification reports shall include monthly volumetric flow rate and methane concentration data, including documentation that the methane was actually supplied to the combustion source. Monitoring and verification is also subject to the following requirements:**
**1. The project sponsor shall submit a monitoring and verification plan as part of the consistency application that includes a quality assurance and quality control program associated with equipment used to determine landfill gas volumetric flow rate and methane concentration. 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 accredited independent verifier; and**
**2. The project sponsor shall annually verify landfill gas methane concentration through landfill gas sampling and independent laboratory analysis using EPA Test Method 3C, Determination of Carbon Dioxide, Nitrogen, and Oxygen from Stationary Sources, as supplemented and amended and which is incorporated by reference herein, and is available at http://www.epa.gov/ttn/emc/promgate.html.**

**7:27C-10.6 $CO_2$ emissions offset project standards – reductions in emissions of sulfur hexafluoride**

**(a) To qualify for the award of $CO_2$ offset allowances, in addition to satisfying the other applicable requirements of this subchapter, an offset project that prevents emissions of sulfur hexafluoride ($SF_6$) to the atmosphere from equipment in the electricity transmission**

**and distribution sector, through capture and storage, recycling, or destruction, shall meet the requirements of (b) through (k) below.**

**(b) An offset project under this section shall consist of incremental actions beyond those taken during the baseline year to achieve a reduction in $SF_6$ emissions relative to the baseline year. These incremental actions may include an expansion of existing actions. The identified actions to be taken shall be consistent with the guidance provided in International Electrotechnical Commission (IEC) 1634, "High-voltage switchgear and control gear—Use and handling of sulfur hexafluoride ($SF_6$) in high-voltage switchgear and control gear," (CEI/IEC 1634, 1995-04), as supplemented or amended, and which is incorporated by reference herein, which is available from the American National Standards Institute, at http://www.ansi.org.**

**(c) Except as provided in (d) below, an offset project under this section shall have an $SF_6$ entity-wide emissions rate for the baseline year that is less than the applicable emissions rate in Table 1 below. The entity-wide $SF_6$ emissions rate shall be calculated as follows:**

**$SF_6$ Emissions Rate (percent) = (Total $SF_6$ Emissions for Reporting Year)/ (Total $SF_6$ Nameplate Capacity at End of Reporting Year)**

**where:**

**$SF_6$ Nameplate Capacity refers to all $SF_6$-containing equipment owned and/or operated by the entity, at full and proper $SF_6$ charge of the equipment rather than the actual charge of the equipment (which may reflect leakage).**

**Table 1**

**$SF_6$ Emissions Rate Performance Standards**

**Emission Regions**

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

**Emissions Rate Performance Standards**

| Region | Emission Rate[a] |
|---|---|
| Region A | 9.68 percent |
| Region B | 5.22 percent |
| Region C | 9.68 percent |
| Region D | 5.77 percent |
| Region E | 3.65 percent |
| U.S. (National) | 9.68 percent |

[a] Based on weighted average 2004 emissions rates for EPA $SF_6$ Partnership utilities in each region. In the case of a region where the weighted average emissions rate was higher than the national weighted average, the default performance standard reflected in the table is the national weighted average emissions rate.

**(d) The $SF_6$ entity-wide emissions rate in the baseline year may exceed the applicable rate in Table 1 at (c) above, provided that the project sponsor demonstrates and the Department determines that the project is being implemented at a transmission and/or distribution entity serving a predominantly urban service territory and that at least two of the following factors prevent optimal management of $SF_6$:**

**1. The entity is comprised of older-than-average installed transmission and distribution equipment in relation to the national average age of equipment;**

**2. A majority of the entity's electricity load is served by equipment that is located underground, and poor accessibility of such underground equipment precludes management of $SF_6$ emissions through regular ongoing maintenance;**
**3. The entity is unable to take a substantial portion of equipment out of service, as such activity would impair system reliability; and**
**4. The required equipment purpose or design for a substantial portion of entity transmission and distribution equipment results in inherently leak-prone equipment.**

**(e) 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 requirements of (b) through (d) above. The offset project narrative shall include:**
**1. A description of the transmission and/or distribution entity sufficiently detailed so as to specify the service territory served by the entity; and**
**2. Identification of the owner and operator of the transmission and/or distribution entity.**

**(f) If the consistency application is filed after June 30, 2009, baseline $SF_6$ emissions shall be determined based on annual entity-wide reporting of $SF_6$ emissions for the calendar year immediately preceding the calendar year in which the consistency application is filed (designated the baseline year). If the consistency application is filed on or before June 30, 2009, the baseline year may be 2005 or the calendar year immediately preceding the calendar year in which the consistency application is filed. The reporting entity shall systematically track and account for all entity-wide uses of $SF_6$ in order to determine entity-wide emissions of $SF_6$. The scope of such tracking and accounting shall include all electric transmission and distribution assets and all $SF_6$-containing and $SF_6$-handling equipment owned and/or operated by the reporting entity. Emissions shall be determined and calculated as follows:**
**1. Emissions shall be determined based on the following mass balance method:**
**$SF_6$ Emissions (lbs) = ($SF_6$ Change in Inventory) + ($SF_6$ Purchases and Acquisitions) – ($SF_6$ Sales and Disbursements) – (Change in Total $SF_6$ Nameplate Capacity of Equipment)**
**where:**
**Change in Inventory is the difference between the quantity of $SF_6$ gas in storage at the beginning of the reporting year and the quantity in storage at the end of the reporting year. "Quantity in storage" includes all $SF_6$ gas contained in cylinders (such as 115-pound storage cylinders), gas carts, and other storage containers, but does not include $SF_6$ gas held in $SF_6$-using operating equipment. The change in inventory will be negative if the quantity of $SF_6$ gas in storage increases over the course of the year;**
**Purchases and Acquisitions of $SF_6$ is the sum of all the $SF_6$ gas acquired from other parties during the reporting year, as contained in storage containers or $SF_6$-using operating equipment;**
**Sales and disbursements of $SF_6$ is the sum of all the $SF_6$ gas sold or otherwise disbursed to other parties during the reporting year, as contained in storage containers and $SF_6$-using operating equipment; and**

**Change in Total $SF_6$ Nameplate Capacity of Equipment is the net change in the total volume of $SF_6$-containing operating equipment during the reporting year. The net change in nameplate capacity is equal to new equipment nameplate capacity, minus retired equipment nameplate capacity. This quantity will be negative if the retired equipment has a total nameplate capacity larger than the total nameplate capacity of the new equipment. "Total nameplate capacity" refers to the full and proper $SF_6$ charge of the equipment rather than to the actual charge, which may reflect leakage; and**

**2. Emissions shall be calculated as follows:**

$$\text{Emissions (tons } CO_2e) = [(V_{iby} - V_{iey}) + (PA_{psd} + PA_e + PA_{rre}) - (SD_{op} + SD_{rs} + SD_{df} + SD_{sor}) - (CNP_{ne} - CNP_{rse})] \times GWP/2000$$

**where (all $SF_6$ values in lbs):**

**$V_{iby}$ = $SF_6$ inventory in cylinders, gas carts, and other storage containers (not $SF_6$-containing operating equipment) at the beginning of the reporting year;**

**$V_{iey}$ = $SF_6$ inventory in cylinders, gas carts, and other storage containers (not $SF_6$-containing operating equipment) at the end of the reporting year;**

**$PA_{psd}$ = $SF_6$ purchased from suppliers or distributors in cylinders;**

**$PA_e$ = $SF_6$ provided by equipment manufacturers with or inside $SF_6$-containing operating equipment;**

**$PA_{rre}$ = $SF_6$ returned to the reporting entity after off-site recycling;**

**$SD_{op}$ = Sales of $SF_6$ to other parties, including gas left in $SF_6$-containing operating equipment that is sold;**

**$SD_{rs}$ = Returns of $SF_6$ to supplier (producer or distributor);**

**$SD_{df}$ = $SF_6$ sent to destruction facilities;**

**$SD_{sor}$ = $SF_6$ sent off-site for recycling;**

**$CNP_{ne}$ = Total $SF_6$ nameplate capacity of new $SF_6$-containing operating equipment at proper full charge;**

**$CNP_{rse}$ = Total $SF_6$ nameplate capacity of retired or sold $SF_6$-containing operating equipment at proper full charge; and**

**GWP = $CO_2e$ global warming potential of $SF_6$ (22,200).**

**(g) As part of the consistency application required at N.J.A.C. 7:27C-10.4 and in the annual monitoring and verification report required at N.J.A.C. 7:27C-10.11, the project sponsor shall provide the documentation required at (i) through (k) below to support emissions calculations.**

**(h) Emissions reductions shall represent the annual entity-wide emissions reductions of $SF_6$ for the reporting entity, relative to emissions in the baseline year. Emissions reductions shall be determined using the quantification method outlined in (f)2 above to determine emissions in both the baseline year and reporting year, as follows:**

**Emissions Reduction (tons $CO_2e$) = (Total Pounds of $SF_6$ Emissions in Baseline Reporting Year) – (Total Pounds of $SF_6$ Emissions in Reporting Year) x GWP/2000**

**where:**

**GWP = $CO_2$e global warming potential of $SF_6$ (22,200).**

**(i) The annual monitoring and verification report shall include supporting material detailing the calculations and data used to determine $SF_6$ emissions reductions, including identification of the facility or facilities managed by the entity from which all $SF_6$ gas is procured and disbursed, and the entity-wide log of all $SF_6$ gas procurements and disbursals, maintained pursuant to (j) below. The annual monitoring and verification report shall also include a current entity-wide inventory of all $SF_6$-containing operating equipment and all other $SF_6$-related items, including cylinders, gas carts, and other storage containers used by the entity, certified by an accredited independent verifier.**

**(j) The project sponsor shall maintain an entity-wide log of all $SF_6$ gas procurements and disbursals. The entity-wide log shall include the weight of each cylinder transported before shipment from the facility and the weight of each cylinder after return to the facility. A specific cylinder log shall also be maintained for each cylinder that is used to fill equipment with $SF_6$ or reclaim $SF_6$ from equipment. The cylinder log shall be retained with the cylinder and indicate the location and specific identifying information of the equipment being filled, or from which $SF_6$ 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.**

**(k) The project sponsor shall provide a monitoring and verification plan as part of the consistency application, which shall include an $SF_6$ 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 accredited independent verifier.**

**7:27C-10.7 $CO_2$ emissions offset project standards – sequestration of carbon due to afforestation**

**(a) To qualify for the award of $CO_2$ offset allowances, in addition to satisfying the other applicable requirements of this subchapter, an offset project that sequesters carbon through the conversion of land from a non-forested to forested condition shall meet the requirements of (b) through (u) below.**

**(b) An offset project under this section shall occur on land that has been in a non-forested state for at least 10 years immediately preceding the commencement of the offset project.**

**(c) An offset project under this section shall be managed in accordance with widely accepted environmentally sustainable forestry practices and designed to promote the restoration of native forests by using mainly native species and avoiding the introduction of invasive non-native species. If commercial timber harvest activities are to occur, certification shall be obtained, prior to any harvest activities at the site, through the Forest Stewardship Council, the Sustainable Forestry Institute, or the American Tree Farm System.**

**(d) 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 requirements of (b) above. The offset project narrative shall include the following:**

**1. Identification of the owner of the land within the offset project boundary;**

**2. A detailed map of the land within the offset project boundary and areas adjacent to the offset project boundary;**

**3. A copy of the permanent conservation easement required pursuant to (u) below;**

**4. For offset projects located in a state or United States jurisdiction that is not a participating state, a written legal opinion from an attorney licensed to practice in the state where the offset project is located, or from the cooperating regulatory agency, that the permanent conservation easement has been recorded with the appropriate jurisdiction and is enforceable; and**

**5. Identification of the plant species to be planted or established via natural regeneration and a forest management plan consistent with the requirements at (c) above.**

**(e) The existing sequestered carbon within the offset project boundary shall be calculated prior to commencement of the offset project. The carbon sequestration baseline shall be determined based on a sum of measurements, made no more than 12 months prior to offset project commencement, of the carbon content of the required and optional carbon pools, as set forth in (f) through (o) below.**

**(f) The carbon pools for which carbon calculation is required are as follows:**

**1. Live above-ground tree biomass;**

**2. Live below-ground tree biomass;**

**3. Soil carbon; and**

**4. Dead organic matter - coarse woody debris, unless the baseline measurement for this carbon pool is de minimis, that is, at or near zero, in which case measurement of this carbon pool during the allocation period is optional.**

**(g) The carbon pools for which carbon calculation is optional are as follows:**

**1. Live above-ground non-tree biomass; and**

**2. Dead organic matter - forest floor.**

**(h) Carbon content shall be calculated individually for each carbon pool within the offset project boundary.**

**(i) To increase the accuracy of measurement and verification, the area within the offset project boundary shall be divided into sub-populations that form relatively homogenous units. When defining sub-populations, the project sponsor shall consider vegetation and tree species (including existing vegetation and trees and those to be utilized as part of the offset project activity) and site factors (soil type, elevation, slope, age class, and other factors as warranted).**

**(j) Calculation of sequestered carbon for each carbon pool in each reporting sub-population shall be based on the following:**

**$CO_2$ tons = [(A x C/ha)(44/12)] / 0.9072**

**where:**

**A = Area in hectares within each reporting sub-population;**

**C = Carbon content (metric tons of carbon for each carbon pool); and**

**C/ha = Mean carbon content per hectare for each carbon pool.**

**(k) Total carbon contained within the offset project boundary (represented in $CO_2$ tons, calculated pursuant to (j) above) shall be calculated as follows:**

$$TC_{pb} = TC_{latb} + TC_{lbtb} + TC_{s} [+ TC_{lantb} + TC_{doff} + TC_{docwd}]$$

**where:**

**$TC_{pb}$ = Total carbon content within the offset project boundary (sum of carbon content of all carbon pools in all reporting sub-populations);**

**$TC_{latb}$ = Sum of carbon content of live above-ground tree biomass in all reporting sub-populations;**

**$TC_{lbtb}$ = Sum of carbon content of live below-ground tree biomass in all reporting sub-populations;**

**$TC_{s}$ = Sum of carbon content of soil carbon in all reporting sub-populations;**

**$TC_{lantb}$ [option] = Sum of carbon content of live above-ground non-tree biomass in all reporting sub-populations;**

**$TC_{doff}$ [option] = Sum of carbon content of dead organic matter, forest floor in all reporting sub-populations;**

**$TC_{docwd}$ [mandatory/optional, as applicable, pursuant to (f)4 above] = Sum of carbon content of dead organic matter, coarse woody debris in all reporting sub-populations.**

**(*l*) Each individual carbon pool to be measured shall be directly measured using a measurement protocol and sample size that achieves a demonstrated quantified accuracy for the combined carbon pool measurement such that there is 95 percent confidence that the resulting reported value is within 10 percent of the true mean. Measurement and sampling practices shall meet the following requirements:**

**1. An adequate sample size that meets the requirements of this subsection shall be determined for each sub-population; and**

**2. The minimum number of required sampling plots for each sub-population shall be determined based on the following:**

$$n = (s \times 1.960)/(mean \times re)^2$$

**where:**

**n = required number of sample plots for each reporting sub-population;**

**s = standard deviation;**

**mean = mean reported carbon content for the sample population; and**

**re = level of sampling error (0.08) to assure a total maximum error of 10 percent for the 95 percent confidence interval, which assumes total error due to measurement error of 0.02.**

**(m) Direct measurement procedures shall be consistent with current forestry good practice and the guidance contained in U.S. Department of Energy, Technical Guidelines Voluntary Reporting of Greenhouse Gases (1605(b)) Program; Chapter 1, Emissions Inventories; Part 1 Appendix: Forestry; Section 3: Measurement Protocols for Forest Carbon Sequestration (March 2006), as supplemented and amended and which is incorporated by reference herein, which is available from the U.S. Department of Energy at http://www.pi.energy.gov/enhancingGHGregistry/documents/PartIForestryAppendix.pdf.**

**(n) Carbon sequestration shall be determined using a base year approach, where the amount of carbon sequestered is measured as a net increase in carbon relative to the base year measurement. Carbon sequestration shall be the amount of net additional carbon sequestered during each reporting period at (r) below, based upon aggregate carbon uptake and carbon emissions for the sum of carbon pools, relative to the baseline carbon content or the carbon content as of the previous reporting period (if above the baseline carbon content), as applicable. $CO_2$ offset allowances shall be issued based on the amount of net additional carbon sequestered within the offset project boundary during each reporting period at (r) below, as represented in tons of $CO_2$. Sequestered carbon shall be calculated using a stock-change approach as follows:**

$$NCS_t = I_t - I_{t-1}$$

**where:**

**$NCS_t$ = Net carbon sequestered in reporting period t;**

**$I_t$ = Inventory of carbon stock for all carbon pools in all reporting sub-populations within the offset project boundary in reporting period t; and**

**$I_{t-1}$ = Inventory of carbon stock for all carbon pools in all reporting sub-populations within the offset project boundary in the reporting period immediately preceding reporting period t.**

**(o) Except as provided in (f)4 above, each of the carbon pools that was measured as part of the baseline determination shall be re-measured using the same methodology, and to the same or better quantified precision consistent with the requirements of (*l*) and (m) above, as that used for the baseline determination.**

**(p) The net change in each carbon pool's carbon stock in each reporting sub-population is calculated by subtracting the baseline carbon stock (or carbon stock at the previous monitoring, if above the baseline carbon content) from the carbon stock at the time of the current monitoring. Determination of carbon stock shall be in accordance with the formulas and procedures in this section.**

**(q) Net carbon stock change for the offset project is the sum of the net changes in the carbon stock of all applicable pools in all reporting sub-populations within the offset project boundary, less 10 percent, to account for potential losses of sequestered carbon. This 10 percent discount shall not be required, provided the project sponsor retains long-term insurance that guarantees replacement of any lost sequestered carbon for which $CO_2$ offset allowances were awarded pursuant to N.J.A.C. 7:27C-10.11(a).**

**(r) Total carbon stock within the offset project boundary shall be calculated at least once every five years.**

**(s) Monitoring and verification reports shall include data from direct measurement of carbon content for all plots used to determine baseline and reporting period carbon content.**

**(t) The consistency application shall include a monitoring and verification plan certified by the Department or an accredited independent verifier. The monitoring and verification plan shall include the following:**

**1. Direct carbon measurement procedures consistent with the requirements at (m) above;**

**2. The designation of sub-populations pursuant to (i) above and the determination of the minimum number of sampling plots pursuant to (*l*) above; and**

**3. If commercial timber harvest activities have occurred or will occur, an assessment of management practices to ensure that the offset project has been or will be managed in accordance with environmentally sustainable forestry practices consistent with the Forest Stewardship Council, the Sustainable Forestry Institute, or the American Tree Farm System.**

**(u) The offset project shall meet the following requirements to address permanence of sequestered carbon:**

**1. The project sponsor shall place the land within the offset project boundary under a legally binding permanent conservation easement that requires the land to be maintained in a forested state in perpetuity;**

**2. The conservation easement shall include a requirement that the carbon density within the offset project boundary be maintained at long-term levels at or above that achieved as of the end of the final allocation period for the offset project pursuant to N.J.A.C. 7:27C-10.3(h); and**

**3. The conservation easement shall require that the land be managed in accordance with environmentally sustainable forestry practices.**

**7:27C -10.8 $CO_2$ emissions offset project standards – reduction or avoidance of $CO_2$ emissions from natural gas, oil, or propane end-use combustion due to end-use energy efficiency**

**(a) To qualify for the award of $CO_2$ offset allowances, in addition to satisfying the other applicable requirements of this subchapter, an offset project that reduces $CO_2$ emissions by reducing on-site combustion of natural gas, oil, or propane 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 (b) through (n) below.**

**(b) An offset project under this section shall reduce $CO_2$ emissions through one or more of the following energy conservation measures:**

**1. Improvements in the energy efficiency of combustion equipment that provide space heating and hot water, including a reduction in fossil fuel consumption through the use of solar or geothermal energy;**
**2. Improvements in the efficiency of heating distribution systems, including proper sizing and commissioning of heating systems;**
**3. Installation or improvement of energy management systems;**
**4. Improvement in the efficiency of hot water distribution systems and reduction in demand for hot water;**
**5. Measures that improve the thermal performance of the building envelope and/or reduce building envelope air leakage;**
**6. Measures that improve the passive solar performance of buildings and utilization of active heating systems using renewable energy; or**
**7. Fuel switching to a less carbon-intensive fuel for use in combustion systems, including the use of liquid or gaseous eligible biomass, provided that conversions to electricity are not eligible.**

**(c) An HVAC system installed as part of an offset project shall meet the following sizing and installation requirements:**

**1. For a commercial HVAC system, the applicable sizing and installation requirements of ANSI/ASHRAE/IESNA Standard 90.1-2007 and ANSI/ASHRAE Standard 62.1-2004: Ventilation for Acceptable Indoor Air Quality, as supplemented and amended and which is incorporated by reference herein, which is available from the American Society of Heating, Refrigerating and Air-Conditioner Engineers at http://www.ashrae.org; or**
**2. For a residential HVAC system, the applicable sizing specifications of Air Conditioner Contractors of America Manual J: Residential Load Calculation (Eight Edition), and the applicable installation specifications of "Specification of Energy-Efficient Installation and Maintenance Practices for Residential HVAC Systems," Consortium for Energy Efficiency, 2000, both as supplemented and amended and incorporated by reference herein, which is available from the of Air Conditioner Contractors of America at http://www.acca.org.**

**(d) A new building or whole-building retrofit that is part of an offset project shall meet the following requirements:**

**1. A commercial building shall exceed by 30 percent the energy performance requirements of ANSI/ASHRAE/IESNA Standard 90.1-2007, with the exception of multi-family residential buildings classified as commercial by ANSI/ASHRAE/IESNA Standard 90.1-2007, which must exceed these energy performance requirements by 20 percent; and**
**2. A residential building shall exceed by 30 percent the energy performance requirements of the 2004 International Energy Conservation Code, as supplemented and amended and which is incorporated by reference herein, which is available from the International Code Council at http://www.iccsafe.org.**

**(e) Combustion equipment installed as part of an offset project commenced before January 1, 2009 shall meet the following energy efficiency performance standards:**

**1. A commercial boiler shall meet or exceed the energy efficiency criteria in Table 2 below:**

**Table 2**
**Minimum Commercial Boiler Energy Efficiency**

| Technology | Size (Btu/hr) | Rating Method | Minimum Efficiency |
|---|---|---|---|
| Gas-fired[a] | 125,000-300,000 | AFUE | ≥88.0 percent |
| | 300,000-12,500,000 | Thermal Efficiency[b] | ≥90.0 percent |
| Oil-fired | >300,000 | Thermal Efficiency | ≥88.0 percent |

[a] A gas-fired boiler shall be installed with controls that allow the boiler to operate in condensing mode and installed with vents designed for positive vent static pressure and vent gas temperature that leads to condensate production in the vent.
[b] Thermal Efficiency is determined by dividing useful energy output (Btu) by energy input (Btu), expressed as a percentage. This shall be measured under steady state conditions, at full-rated useful thermal output, 140 degrees Fahrenheit supply from, and 120 degrees Fahrenheit return water temperature to, the boiler.

**; and**

**2. Residential combustion equipment, including furnaces, boilers, and water heaters, shall meet or exceed the energy efficiency criteria in Table 3 below:**

**Table 3**
**Minimum Residential Combustion Equipment[a] Energy Efficiency**

| Technology | Rating Method | Minimum Efficiency |
|---|---|---|
| Gas-fired furnace | AFUE | ≥94 percent |
| Oil-fired furnace | AFUE | ≥92 percent |

| | | |
|---|---|---|
| **Gas/oil-fired boiler** | **AFUE** | **≥90 percent** |
| **Gas/oil-fired water heater** | **Energy Factor** | **≥0.62** |

**[a] For furnaces, defined as equipment with a heat input rate of less than 225,000 Btu/hr; for boilers, defined as equipment with a heat input rate of less than 300,000 Btu/hr; for water heaters, defined as equipment subject to 10 CFR 430, as supplemented or amended, and which is incorporated by reference herein.**

**(f) Energy conservation measures implemented as part of an offset project commenced before January 1, 2009 other than combustion equipment described at (e) above, shall meet the prescriptive requirements, as applicable, in Energy Benchmark for High Performance Buildings, Version 1.1, New Buildings Institute, 2005 (Energy Benchmark), which is incorporated herein by reference, which is available from Advanced Buildings at http://www.advancedbuildings.net/publications.htm, or applicable state building energy codes, whichever result in better energy performance. An energy conservation measure for which the Energy Benchmark does not provide specified performance criteria shall meet the requirements of the Federal Energy Management Program Product Energy Efficiency Recommendations (issued pursuant to Executive Orders 13123 and 13221) as supplemented and amended and which is incorporated herein by reference, which is available through the FEMP website at http://www1.eere.energy.gov/femp/procurement/eep_requirements.html, or Energy Star criteria issued jointly by the EPA and the United States Department of Energy, incorporated by reference herein and which are available at the Energy Star website at http://www.energystar.gov/index.cfm?c=product_specs.pt_product_specs, whichever result in better energy performance.**

**(g) For an offset project under this section initiated on or after January 1, 2009, the project sponsor shall demonstrate that the energy conservation measures implemented as part of the offset project have a market penetration rate of less than five percent.**

**(h) The offset project sponsor shall provide a detailed narrative of the offset project actions to be taken, and shall include supporting documentation that the offset project meets the requirements of (b) through (g) above. The offset project narrative and supporting documentation shall include the following:**

**1. The location and specifications of the building(s) where the offset project actions will occur;**
**2. The name/identification of the owner and operator of the building(s);**
**3. The name/identification of the parties implementing the offset project, including lead contractor(s), subcontractors, and consulting firms;**
**4. Specifications of equipment and materials to be installed as part of the offset project; and**
**5. Building plans and offset project technical schematics, as applicable.**

**(i) The emissions baseline shall be determined in accordance with (i)1 through 3 below, 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:**

**Table 4**
**Emissions and Oxidation Factors**

| Fuel | Emissions Factor (lbs. $CO_2$/MMBtu) | Oxidation Factor |
|---|---|---|
| Natural Gas | 116.98 | 0.995 |
| Propane | 139.04 | 0.995 |
| Distillate Fuel Oil | 161.27 | 0.99 |
| Kerosene | 159.41 | 0.99 |

**1. The baseline energy usage of the application to be targeted by the energy conservation measure shall be isolated in a manner consistent with (n) below;**
**2. Annual baseline energy usage shall be determined as follows:**

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

**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 (n) below; and**

**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 (n) below; and**

**3. Annual baseline emissions shall be determined as follows:**

$$\text{Emissions (lbs. } CO_2) = \sum_{i=1}^{n} BEU_i \times EF_i \times OF_i$$

**where:**

**$BEU_i$ = Annual baseline energy usage for fuel type i (MMBtu) demonstrated pursuant to the requirements at (n) below;**

**$EF_i$ = Emissions factor (lbs. $CO_2$/MMBtu) for fuel type i listed in Table 4 above;**

**$OF_i$ = Oxidation factor for fuel type i listed at Table 4 above; and**

**n= Number of fuel types.**

**(j) 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 Table 4 at (i) above. Annual energy savings and annual emissions reductions shall be determined as set forth in (j)1 and 2 below, respectively:**

**1. Annual energy savings shall be determined as follows:**

$$\text{Energy Savings (MMBtu)} = (BEU_{AECM} \times A) - (PIEU_{ECM} \times A)$$

**where:**

**$BEU_{AECM}$ = Annual pre-installation baseline energy use by fuel type (MMBtu) calculated pursuant to (n) below;**

**$PIEU_{ECM}$ = 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 (n) below; and**

**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 (n) above; and**

**2. Annual emissions reductions shall be determined as follows:**

$$\text{Emissions Reduction (lbs. } CO_2) = \sum_{i=1}^{n} ES_i \times EF_i \times OF_i$$

**where:**

**$ES_i$ = Energy savings for fuel type i (MMBtu) demonstrated pursuant to (n) below;**

**$EF_i$ = Emissions factor (lbs. $CO_2$/MMBtu) for fuel type i listed at Table 4 at (i) above;**

**$OF_i$ = Oxidation factor for fuel type i listed at Table 4 at (i) above; and**

**"n"= Number of fuel types.**

**(k) As part of the consistency application, the project sponsor shall provide a monitoring and verification plan certified by an accredited independent verifier.**

**(*l*) Annual monitoring and verification reports shall be certified by an accredited independent verifier. An accredited independent verifier shall 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 shall provide the accredited independent verifier with equipment specifications and copies of equipment invoices and other relevant offset project-related invoices.**

**(m) All offset project documentation, including the consistency application and monitoring and verification reports, shall be signed by a professional engineer, identified by license number.**

**(n) Monitoring and verification shall meet the following requirements, in addition to those at (k) through (m) above:**

**1. Monitoring and verification of energy usage shall be demonstrated through a documented process consistent with the following protocols and procedures, as applicable:**

**i. For an existing commercial building, 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 Volume I), "Option B. Retrofit Isolation" and "Option D. Calibrated Simulation," as supplemented and amended and which are incorporated by reference herein, and which are available at http://www.ipmvp.org. If a building project involves only energy conservation measures implemented as part of an offset project, a process consistent with IPMVP Volume I "Option C. Whole Facility," as supplemented and amended and which is incorporated by reference herein and which is available at http://www.ipmvp.org, may be used, as applicable. Application of the IPMVP Volume I general guidance, as supplemented and amended and which is incorporated by reference herein, shall be consistent with the applicable detailed specifications in ASHRAE Guideline 14-2002;**

**ii. For a new commercial building, 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 Volume III), "Option D. Calibrated Simulation," as supplemented and amended and which is incorporated by reference herein and which is available at http://www.ipmvp.org. Application of the IPMVP Volume III general guidance, as supplemented and amended and which is incorporated by reference herein, shall be consistent with the applicable detailed specifications in ASHRAE Guideline 14-2002; or**

**iii. For an existing or new residential building, 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), as supplemented and amended and which is incorporated by reference herein, which is available from the Residential Energy Services Network at http://www.resnet.us;**

**2. In calculating both baseline energy usage and energy savings, the project sponsor shall isolate the impact of each ECM, either through direct metering or energy simulation modeling. For offset projects with multiple ECMs, and where an individual ECM can affect the performance of other ECMs, the sum of energy savings due to an individual ECM shall be adjusted to account for the interaction of ECMs. For commercial buildings, this process shall be consistent with the requirements of ASHRAE Guideline 14-2002, and ANSI/ASHRAE/IESNA Standard 90.1-2007. 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), as supplemented and amended and which is incorporated by reference herein, which is available from the Residential Energy Services Network at http://www.resnet.us. Reductions in energy usage due to the ECM 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 ECM;**

**3. For monitoring and verification of energy usage, annual energy savings shall be determined based on the following:**

**Energy Savings (MMBtu) = $(BEU_{AECM} \times A) - (PIEU_{ECM} \times A)$**

**where:**

**$BEU_{AECM}$ = Annual pre-installation baseline energy use by fuel type (MMBtu) attributable to the application(s) to be targeted by the ECM, based upon annual fuel usage data for the most recent calendar year for which data is available. For new commercial buildings, baseline energy use for a reference building equivalent in basic configuration, orientation, and location to the building in which the eligible ECM is implemented shall be determined according to ASHRAE Guideline 14-2002, and ANSI/ASHRAE/IESNA Standard 90.1-2007, Section 11, Energy Cost Budget Method and Appendix G, Performance Rating Method. Where energy simulation modeling is used to evaluate an existing commercial building, modeling shall be conducted in accordance with ASHRAE Guideline 14-2002, and ANSI/ASHRAE/IESNA Standard 90.1-2007, Section 11, Energy Cost Budget Method and Appendix G, Performance Rating Method. 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), as supplemented and amended and which is incorporated by reference herein, which is available from the Residential Energy Services Network at http://www.resnet.us;**

**$PIEU_{ECM}$ = 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 14-2002. Where energy simulation modeling is used to evaluate a new or existing commercial building, modeling shall be conducted in accordance with ASHRAE Guideline 14-2002 and ANSI/ASHRAE/IESNA Standard 90.1-2007, Section 11, Energy Cost Budget Method and Appendix G, Performance Rating Method. 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), as supplemented and amended and which is incorporated by reference herein, which is available from the Residential Energy Services Network at http://www.resnet.us; and**

**A = Adjustments to account for any differing conditions during the two time periods (pre-installation and post-installation), such as weather (weather normalized energy usage based on heating and cooling degree days), building occupancy, and changes in building use or function. For commercial buildings, adjustments shall be consistent with the specifications of ASHRAE Guideline 14-2002, and ANSI/ASHRAE/IESNA Standard 90.1-2007, Section 11, Energy Cost Budget Method and Appendix G, Performance Rating Method. 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), as supplemented and amended and which is incorporated by reference herein, which is available from the Residential Energy Services Network at http://www.resnet.us; and**

**4. For monitoring and verification of energy usage, 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 percent confidence that the reported value is within 10 percent of the true mean. Any sampling plan shall be certified by an accredited independent verifier.**

**7:27C-10.9 $CO_2$ emissions offset project standards – avoided methane emissions from agricultural manure management operations**

**(a) To qualify for the award of $CO_2$ offset allowances, in addition to satisfying the other applicable requirements of this subchapter, an offset project that reduces $CO_2$–equivalent emissions by capturing and destroying methane from animal manure and organic food waste using anaerobic digesters shall meet the requirements of (b) through (g) below.**

**(b) An offset project that captures and destroys methane from animal manure and organic food waste using anaerobic digesters shall:**

**1. 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; and**

**2. Employ only manure-based anaerobic digester systems using livestock manure as the majority of digester feedstock, defined as more than 50 percent of the mass input into the digester on an annual basis. The remainder of the digester feedstock may be organic food waste that would have been stored in anaerobic conditions in the absence of the offset project.**

**(c) The provisions of N.J.A.C. 7:27C-10.3(f)2 and 3 do not apply to agricultural manure management offset projects if:**

**1. The offset project is located in a state that has a market penetration rate for anaerobic digester projects of five percent or less. The market penetration rate determination shall utilize the most recent market data available at the time of submission of the consistency application pursuant to N.J.A.C. 7:27C-10.4 and shall be determined as follows:**

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

**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 N.J.A.C. 7:27C-10.4; 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 N.J.A.C. 7:27C-10.4; or**

**2. The offset project is located at a farm with 4,000 or fewer head of dairy cows, or a farm with equivalent animal units, assuming an average live weight for dairy cows (in pounds per cow) of 1,400 pounds, 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 fewer head of dairy cows, or a farm with equivalent animal units, assuming an average live weight for dairy cows (in pounds per cow) of 1,400 pounds.**

**(d) 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 requirements of (b) above. The offset project narrative shall include:**

**1. Identification of the owner and operator of the offset project;**

**2. The location and specifications of the facility where the offset project will occur;**

**3. Identification of the owner and operator of the facility where the offset project will occur;**

**4. Specifications of the equipment to be installed and a technical schematic of the offset project; and**

**5. The 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.**

**(e) The emissions baseline shall represent the potential emissions of the methane 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, and is calculated as follows:**

**1. Baseline methane emissions shall be calculated as follows:**

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

**where:**

**$CO_2e$ = Potential $CO_2e$ emissions due to calculated $CH_4$ production under site-specific anaerobic storage and weather conditions;**

**$V_m$ = Volume of $CH_4$ 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 ($ft^3$);**

**M = Mass of $CH_4$ per cubic foot (0.04246 lb/$ft^3$ default value at one atmosphere and 20 degrees Celsius); and**

**GWP = Global warming potential of $CH_4$ (23);**

**2. 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:**

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

**where:**

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

**$TS_{percent}$ = concentration (percent) of total solids in manure or organic food waste as determined through USGS I-3750-85, Solids, residue on evaporation at 105 degrees Celsius, total, gravimetric, as supplemented or amended and incorporated by reference herein, which is available at http://www.usgs.gov;**

**$VS_{percent}$ = concentration (percent) of volatile solids in total solids as determined through EPA Test Method Number 160.4, Residue, Volatile (Gravimetric, Ignition at 550° C), as supplemented or amended and incorporated by reference herein, and which is available at http://www.usgs.gov.**

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

**$VS_{avail} = VS_p + ½\ VS_{in} – VS_{out}$**

**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 ½ 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); and**

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

**$f = \exp\{[E(T_2 – T_1)]/[(GC \times T_1 \times T_2)]\}$**

**where:**

**f = conversion efficiency of VS to $CH_4$ per month;**

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

**$T_2$ = average monthly ambient temperature for facility where manure or organic food waste is generated (converted from degrees Celsius to degrees Kelvin) as determined from the nearest National Weather Service certified weather station (if reported temperature in degrees Celsius > five degrees Celsius; if reported temperature in degrees Celsius < five degrees Celsius, then f = 0.104);**

**$T_1$ = 303.15 (30 degrees Celsius converted to degrees Kelvin); and**

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

**3. The volume of methane produced, in cubic feet ($ft^3$), from degradation of volatile solids shall be calculated as follows:**

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

**where:**

**$V_m$ = volume of $CH_4$ ($ft^3$);**

**$VS_{deg}$ = volatile solids degraded (kg);**

**$B_0$ = manure or organic food waste type-specific maximum methane generation constant ($m^3$ $CH_4$/kg VS degraded). For dairy cow manure, $B_0$ = 0.24 $m^3$ $CH_4$/kg VS degraded. The methane generation constant for other types of manure shall be those cited at EPA, Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2005, Annex 3.10, Methodology for Estimating $CH_4$ and $N_2O$ Emissions from Manure Management, Table A-160 (2006 Manure Distribution Among Waste Management Systems by Operation (Percent)) (EPA, April 2007), as supplemented or amended, and which is incorporated by reference herein and which is available from EPA at http://www.epa.gov/climatechange/emissions/usinventoryreport.html#, unless the project sponsor proposes an alternate methane generation constant.**

**(f) Emissions reductions shall be determined based on the potential emissions (in tons of $CO_2e$) of the methane 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 (e)1 through 3 above, and released directly to the atmosphere. Emissions reductions shall not exceed the potential emissions of the anaerobic digester, as represented by the annual volume of methane produced by the anaerobic digester, as monitored pursuant to (g) below. If the project is a regional-type digester, $CO_2$ 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 (e)1 through 3 above. Transport $CO_2$ emissions shall be determined through one of the following methods:**

**1. Documentation of transport fuel use for all shipments of manure and organic food waste from off-site to the anaerobic digester during each reporting year and a log of transport miles for each shipment. $CO_2$ emissions shall be determined through the application of an emissions factor for the fuel type used. For this method of determination, the emissions factor for the use of diesel fuel is 22.912 pounds of $CO_2$ per gallon, and for the use of gasoline, 19.878 pounds of $CO_2$ per gallon. If other fuel is used, the project sponsor, as part of the monitoring and verification report submitted pursuant to N.J.A.C. 7:27C-10.11(c) or (d) may submit an emissions factor for approval by the Department as technically appropriate; or**

**2. Documentation of total tons of manure and organic food waste transported from off-site for input into the anaerobic digester during each reporting year, as monitored pursuant to (g)1 below, and a log of transport miles and fuel type used for each shipment. $CO_2$ emissions shall be determined through the application of a ton-mile transport emissions factor for the fuel type used. The appropriate emissions factor shall be applied for each ton of manure delivered, and multiplied by the number of miles transported. For this method of determination, the emissions factor for the use of diesel fuel is 0.131 pounds of $CO_2$ per ton-mile, and for the use of gasoline is 0.133 pounds of $CO_2$ per ton-mile. If other fuel is used, the project sponsor may submit an emissions factor for approval by the Department as technically appropriate;**

**(g) An offset project must employ a system that provides metering of biogas volumetric flow rate and determination of methane concentration. Annual monitoring and verification reports shall include monthly biogas volumetric flow rate and methane concentration determination. Monitoring and verification shall also meet the following requirements:**

**1. If the offset project is a regional-type digester, manure and organic food waste from each distinct source supplying to the anaerobic digester shall be sampled monthly to determine the amount of volatile solids present. Any emissions reduction will be calculated according to mass of manure and organic food waste, in kilograms (kg) being digested and percentage of volatile solids present before digestion, consistent with (e) above and (g)3 below, and apportioned accordingly among sources. The project sponsor shall provide supporting material and receipts tracking the monthly receipt of manure and organic food waste in kilograms (kg) used to supply the anaerobic digester from each supplier;**

**2. If the offset project includes the digestion of organic food waste eligible pursuant to (b)2 above, organic food waste shall be sampled monthly to determine the amount of volatile solids present before digestion, consistent with the requirements at (e) and (g)3 below, and apportioned accordingly;**

**3. The project sponsor shall submit a monitoring and verification plan as part of the consistency application that includes a quality assurance and quality control program associated with equipment used to determine biogas volumetric flow rate and methane composition. The monitoring and verification plan shall be consistent with the applicable input monitoring requirements listed in Table 5 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 accredited independent verifier; and**

**Table 5**
**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 | In descending order of preference:<br><br>1.Recorded weight;<br><br>2. Digester influent pump flow; or<br><br>3. Livestock population and application of American Society of Agricultural and Biological Engineers standard, ASAE D384.2, Manure Production and Characteristics, March 2005, as supplemented or amended, and incorporated by reference herein, and which is available from the American National Standards Institute (ANSI) at http://www.ansi.org. |
| Influent total solids concentration (TS) | Percent (of sample) | Monthly, depending upon recorded variations | USGS I-3750-85, Solids, residue on evaporation at 105 degrees C total, gravimetric, as supplemented and amended, and incorporated by reference herein, and which is available at http://www.usgs.gov. |

| | | | |
|---|---|---|---|
| Influent volatile solids (VS) concentration | Percent (of TS) | Monthly, depending upon recorded variations | EPA Test Method Number 160.4, Residue, Volatile (Gravimetric, Ignition at 550°C), as supplemented or amended and incorporated by reference herein, and which is available at http://www.usgs.gov. |
| Average monthly ambient temperature | Temperature degrees Celsius | Monthly (based on farm averages) | Closest National Weather Service-certified weather station |

4. The project sponsor shall verify biogas methane composition quarterly through gas sampling and third party laboratory analysis using EPA Test Method 3C, Determination of Carbon Dioxide, Nitrogen, and Oxygen from Stationary Sources, as supplemented and amended and incorporated by reference herein, and which is available at http://www.epa.gov/ttn/emc/promgate.html.

7:27C-10.10 Accreditation of independent verifiers

(a) To be accredited by the Department to provide verification services as required of project sponsors under this subchapter, an independent verifier shall:

1. Demonstrate knowledge of:
   i. Utilization of engineering principles;
   ii. Quantification of greenhouse gas emissions;
   iii. Development and evaluation of air emissions inventories;
   iv. Auditing and accounting principles;
   v. Information management systems;
   vi. The requirements of this subchapter and other applicable requirements of this chapter; and
   vii. The data collection, quantification, monitoring, and verification requirements for the individual offset categories specified at N.J.A.C. 7:27C-10.5 through 10.9;
2. Demonstrate that there is no direct or indirect financial relationship, beyond a contract for provision of verification services, between the independent verifier and any offset project developer or project sponsor;
3. Demonstrate the employment of staff with professional licenses, knowledge, and experience appropriate to the specific category or categories of offset projects at N.J.A.C. 7:27C-10.5 through 10.9 to be verified;
4. Demonstrate coverage of a minimum of $1,000,000 of professional liability insurance. If the insurance is in the name of a related entity, the independent

**verifier shall disclose the financial relationship between the independent verifier and the related entity, and provide documentation supporting the description of the relationship;**

**5. Demonstrate implementation of 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 N.J.A.C. 7:27C-10.4(e), and remedy any such conflicts of interest prior to providing verification services; and**

**6. Prior to submitting an application for accreditation, successfully complete any training course, workshop, or test developed by the Department to ensure that an independent verifier has sufficient demonstrated knowledge pursuant to (a)1 above to provide verification services under this subchapter.**

**(b) An application for accreditation shall not contain any proprietary information, and shall include the following:**

**1. The applicant's name, address, e-mail address, telephone number, and facsimile transmission number;**

**2. Documentation that the applicant has at least two years of experience in each of the knowledge areas at (a)1i through v above, and as may be required pursuant to (a)1vii above**

**3. Documentation that the applicant has successfully completed the requirements at (a)6 above, as applicable;**

**4. A sample of at least one work product that provides supporting evidence that the applicant meets the requirements at (a)1 above. 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;**

**5. Documentation that the applicant holds professional liability insurance as required pursuant to (a)4 above; and**

**6. 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 (a)5 above.**

**(c) The Department will approve or deny a complete application for accreditation within 45 days after submission. Upon approval of an application for accreditation, the independent verifier shall be accredited for a period of three years from the date of application approval.**

**(d) The Department will accept the accreditation of an independent verifier that is accredited in another participating state where the Department has determined substantial equivalency between the accreditation requirements in New Jersey and those of the other participating state.**

**(e) Prior to engaging in verification services for an offset project sponsor, an accredited independent 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 independent 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.**

**(f) An accredited independent verifier 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.**

**(g) The Department may reject a verification report and certification from an accredited independent verifier, submitted as part of a consistency application required pursuant to N.J.A.C. 7:27C-10.4 or submitted as part of a monitoring and verification report submitted pursuant to N.J.A.C. 7:27C -10.11(c) or (d), if the Department determines that the accredited independent verifier has a conflict of interest related to the offset project, offset project developer, or project sponsor.**

**(h) The Department may revoke the accreditation of an independent verifier at any time, for any of the following:**

**1. Failure by the accredited independent verifier 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;**

**2. A change in staffing or other criteria so that the accredited independent verifier is no longer qualified;**

**3. Negligence or neglect of responsibilities by the accredited independent verifier pursuant to the requirements of this subchapter; or**

**4. Intentional misrepresentation of data or other fraud by the accredited independent verifier.**

**7:27C-10.11 Award of $CO_2$ offset allowances**

**(a) Following the issuance of a consistency determination under N.J.A.C. 7:27C-10.4(i) and the submission and approval of a monitoring and verification report under the provisions of (g) and (h) below, the Department will award one $CO_2$ offset allowance for each ton of demonstrated reduction in $CO_2$ or $CO_2$-equivalent emissions or sequestration of $CO_2$.**

**(b) If a project sponsor received a consistency determination pursuant to N.J.A.C. 7:27C-10.4(i), one $CO_2$ offset allowance will be awarded for each ton of reduction of $CO_2$ or $CO_2$ equivalent or sequestration of $CO_2$, represented by the relevant credits or allowances retired. If a credit or allowance is represented in metric tons, 1.1023 tons will be awarded for every metric ton, provided that total $CO_2$ offset allowances awarded shall be rounded down to the nearest whole ton.**

**(c) For $CO_2$ emissions offset projects undertaken prior to January 1, 2009, the project sponsor shall submit a monitoring and verification report covering the pre-2009 period by June 30, 2009.**

**(d) For $CO_2$ emissions offset projects undertaken on or after January 1, 2009, the project sponsor shall submit a monitoring and verification report within six months following the completion of the last calendar year during which the offset project achieved $CO_2$-equivalent emissions reductions or sequestration of $CO_2$ for which the project sponsor seeks the award of $CO_2$ offset allowances.**

**(e) For an offset project, a monitoring and verification report shall be submitted in a form prescribed by the Department and shall include:**

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

**2. The $CO_2$ emissions reduction or $CO_2$ sequestration determination as required by the relevant provisions of N.J.A.C. 7:27C-10.5 through 10.9, including a demonstration that the project sponsor complied with the required quantification, monitoring, and verification procedures under N.J.A.C. 7:27C-10.5 through 10.9, as well as those outlined in the consistency application approved pursuant to N.J.A.C. 7:27C-10.4(i);**

**3. A signed certification statement by the project sponsor 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 N.J.A.C. 7:27C-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 $CO_2$ offset allowances under N.J.A.C. 7:27C-10 is contingent on meeting the requirements of N.J.A.C. 7:27C-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 any and all documentation relating to the offset project at the Department's request. I submit to the legal jurisdiction of the State of New Jersey";**

**4. A certification signed by the offset project sponsor certifying that all offset projects for which the project sponsor has received $CO_2$ offset allowances under this subchapter (or corresponding provisions in the rules of other participating states), under the project sponsor's ownership or control (or under the ownership or control of any entity which controls, is controlled by, or has common control with the sponsor) are in compliance with all applicable requirements of the $CO_2$ Budget Trading Program in all participating states;**

**5. A verification report and certification signed by an accredited independent verifier that documents that the accredited independent verifier has reviewed the monitoring and verification report and evaluated the following in relation to the**

**applicable requirements at N.J.A.C. 7:27C-10.5 through 10.9, and any applicable guidance issued by the Department:**

**i. The adequacy and validity of information supplied by the project sponsor to determine $CO_2$ emissions reductions or $CO_2$ sequestration pursuant to the applicable requirements at N.J.A.C. 7:27C-10.5 through 10.9;**

**ii. The adequacy and consistency of methods used to quantify, monitor, and verify $CO_2$ emissions reductions and $CO_2$ sequestration in accordance with the applicable requirements at N.J.A.C. 7:27C-10.5 through 10.9 and as outlined in the consistency application approved pursuant to N.J.A.C. 7:27C-10.4(i);**

**iii. The adequacy and validity of information supplied by the project sponsor to demonstrate that the offset project meets the applicable eligibility requirements of N.J.A.C. 7:27C-10.5 through 10.9; and**

**iv. Such other evaluations and verification reviews as may be required by the Department;**

**6. Disclosure of any voluntary or mandatory programs, other than the $CO_2$ Budget Trading Program, to which greenhouse gas emissions data related to the offset project has been, or will be reported; and**

**7. For offset projects located in a state or United States jurisdiction that is not a participating state, a demonstration that the project sponsor has complied with all requirements of the cooperating regulatory agency in the state or United States jurisdiction where the offset project is located.**

**(f) Following the receipt of a monitoring and verification report pursuant to (c) or (d) above, the Department will determine whether the report is complete for the purposes of commencing review. In no event shall a completeness determination prevent the Department from requesting additional information needed by the Department to approve or deny the submitted monitoring and verification report.**

**(g) The Department will only accept a monitoring and verification report for an offset project for which the Department has issued a consistency determination pursuant to N.J.A.C. 7:27C-10.4(i).**

**(h) The Department will approve or deny a complete monitoring and verification report within 45 days following receipt of a complete report.**