

# PROPOSED RULEMAKING

## ENVIRONMENTAL QUALITY BOARD

[ 25 PA. CODE CH. 145 ]

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

The Environmental Quality Board (Board) proposes to amend Chapter 145 (relating to interstate pollution transport reduction) to add Subchapter E (relating to CO<sub>2</sub> budget trading program) to establish a program to limit the emissions of carbon dioxide (CO<sub>2</sub>) from fossil fuel-fired electric generating units (EGU) located in this Commonwealth, with a nameplate capacity equal to or greater than 25 megawatts (MWe) as set forth in Annex A.

This proposed rulemaking was adopted by the Board at its meeting of September 15, 2020.

#### A. *Effective Date*

This proposed rulemaking will be effective upon final-form publication in the *Pennsylvania Bulletin*.

#### B. *Contact Persons*

For further information, contact Virendra Trivedi, Chief, Division of Permits, Bureau of Air Quality, Rachel Carson State Office Building, P.O. Box 8468, Harrisburg, PA 17105-8468, (717) 783-9476; or Jennie Demjanick, Assistant Counsel, Bureau of Regulatory Counsel, Rachel Carson State Office Building, P.O. Box 8464, Harrisburg, PA 17105-8464, (717) 787-7060. Information regarding submitting comments on this proposed rulemaking appears in section J of this preamble. Persons with a disability may use the Pennsylvania AT&T Relay Service, (800) 654-5984 (TDD users) or (800) 654-5988 (voice users). This proposed rulemaking is available on the Department of Environmental Protection's (Department) web site at [www.dep.pa.gov](http://www.dep.pa.gov) (select "Public Participation," then "Environmental Quality Board").

#### C. *Statutory Authority*

This proposed rulemaking is authorized under section 5(a)(1) of the Air Pollution Control Act (APCA) (35 P.S. § 4005(a)(1)), which grants the Board the authority to adopt rules and regulations for the prevention, control, reduction and abatement of air pollution in this Commonwealth. Section 6.3(a) of the APCA (35 P.S. § 4006.3(a)) also authorizes the Board by regulation to establish fees to support the air pollution control program authorized by this act and not covered by fees required by section 502(b) of the Clean Air Act (CAA).

#### D. *Background and Purpose*

The purpose of this proposed rulemaking is to reduce anthropogenic emissions of CO<sub>2</sub>, a greenhouse gas (GHG) and major contributor to climate change impacts, in a manner that is protective of public health, welfare and the environment in this Commonwealth. This proposed rulemaking would reduce CO<sub>2</sub> emissions from sources within this Commonwealth and establish the Commonwealth's participation in the Regional Greenhouse Gas Initiative (RGGI), a regional CO<sub>2</sub> Budget Trading Program. This proposed rulemaking would establish a CO<sub>2</sub> Budget Trading Program for this Commonwealth which is capable of linking with similar regulations in states participating in RGGI (participating states). These independently promulgated and implemented CO<sub>2</sub> Budget Trading Program regulations together make up the regional CO<sub>2</sub> Budget Trading Program or RGGI.

This proposed rulemaking would effectuate least cost CO<sub>2</sub> emission reductions for the years 2022 through 2030. The declining CO<sub>2</sub> Emissions Budget in this proposed rulemaking directly results in CO<sub>2</sub> emission reductions of around 20 million short tons in this Commonwealth as well as emission reductions across the broader PJM regional electric grid. However, the Department projects that 188 million short tons of CO<sub>2</sub> that would have been emitted over the next decade are avoided by this Commonwealth's participation in RGGI. According to data from the United States Energy Information Administration (EIA), this Commonwealth generates the 4th most CO<sub>2</sub> emissions from EGUs in the country. Since CO<sub>2</sub> emissions are a major contributor to regional climate change impacts, the Department developed this proposed rulemaking to establish this Commonwealth's participation in a regional approach that significantly reduces CO<sub>2</sub> emissions and this Commonwealth's contribution to regional climate change.

#### *Request for comments*

The Board will provide for a comment period for a minimum of 60 days and hold public hearings in impacted areas of this Commonwealth, in accordance with the APCA. During the comment period, the Department is seeking comment on potential approaches for the implementation of this proposed rulemaking that would address equity and environmental justice concerns in this Commonwealth. The Department is also seeking comment on potential approaches that would assist the transition of workers and communities in a just and equitable manner as this Commonwealth continues on a path to cleaner electricity generation. Lastly, the Department is seeking comment on ways to appropriately address the benefits of cogeneration in this Commonwealth, including the allocation of CO<sub>2</sub> allowances similar to the waste coal set-aside provision.

#### *Climate change impacts and the greenhouse effect*

Like every state in the country, this Commonwealth has already begun to experience adverse impacts from climate change, such as higher temperatures, changes in precipitation and frequent extreme weather events, including large storms, flooding, heat waves, heavier snowfalls and periods of drought. These impacts could alter the many fundamental assumptions about climate that are intrinsic to this Commonwealth's infrastructure, governments, businesses and the stewardship of its natural resources and environment. If not properly accounted for, changes in climate could result in more frequent road washouts, higher likelihood of power outages, and shifts in economic activity, among other significant impacts. Climate change can also affect vital determinants of health such as clean air, safe drinking water, sufficient food and secure shelter. These vital determinants are particularly affected by the increased extreme weather events, in addition to decreased air quality and an increase in illnesses transmitted by food, water, and disease carriers such as mosquitos and ticks. If these impacts are to be avoided, GHG emissions must be reduced expeditiously.

The impacts of climate change are vast and what was predicted 10 years ago is being confirmed today. Climate change impacts are being caused by the emission and atmospheric concentration of GHGs, namely CO<sub>2</sub>. Scientists have confirmed that increased CO<sub>2</sub> emissions from human activity are causing changes to global climate.

Ninety-seven percent of the actively publishing climate scientists agree that climate warming trends over the past century are extremely likely due to human activities. Major scientific institutions including the United States National Academy of Sciences, the United States Global Change Research Program (USGCRP), the American Medical Association, the American Association for the Advancement of Science, and many others endorse this position. In the Fifth Assessment Report of the International Panel on Climate Change (IPCC) released in 2014, the IPCC concluded that, “human influence on the climate system is clear, and recent anthropogenic emissions of GHGs are the highest in history.” See IPCC, 2014: Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change.

While CO<sub>2</sub> is a necessary element of life on Earth and acts as a fundamental aspect of nearly every critical system on the planet, CO<sub>2</sub> in high concentrations in the atmosphere leads to the greenhouse effect. The greenhouse effect occurs when CO<sub>2</sub> (and other GHG) molecules absorb solar energy and re-emit infrared energy back to the Earth’s surface. This absorption and re-emitting of infrared energy is what makes certain gases trap heat in the lower atmosphere, not allowing it to go back out to space. The greenhouse effect disrupts the normal process whereby solar energy is absorbed at the Earth’s surface and is radiated back through the atmosphere and back to space. Maintaining the surface temperature of the Earth depends on this balance of incoming and outgoing solar radiation. See the National Aeronautics and Space Administration, “The Causes of Climate Change,” <https://climate.nasa.gov/causes/>.

Global temperatures are increasing due to the greenhouse effect. Significantly changing the global temperature has impacts to every other weather and climate cycle occurring across the world. For instance, global average sea level, which has risen by about 7-8 inches since 1900 (with about 3 inches of that increase occurring since 1993), is expected to rise at least several inches in the next 15 years and by 1—4 feet by 2100. The impacts of increased GHGs in the atmosphere, including extreme weather and catastrophic natural disasters, have become more frequent and more intense. Extreme weather events also contribute to deaths from extreme heat or cold exposure and lost work hours due to illness. The World Health Organization expects climate change to cause around 250,000 additional deaths globally per year between 2030—2050, with additional direct damage costs to health estimated to be around \$2—\$4 billion per year by 2030. Based on the overwhelming scientific evidence, these harms are likely to increase in number and severity unless aggressive steps are taken to reduce GHG emissions.

#### *Climate change impacts assessments*

In 2009, the Department released its first Climate Change Impacts Assessment and Climate Change Action Plan, as required under the Pennsylvania Climate Change Act (71 P.S. §§ 1361.1—1361.8). The 2009 Climate Change Impacts Assessment showed that this Commonwealth was already experiencing some of the harmful effects of climate change. That same year, under CAA section 202(a)(1), (42 U.S.C.A. § 7521(a)(1)), the United States Environmental Protection Agency (EPA) issued an “Endangerment Finding,” that six GHGs—CO<sub>2</sub>, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride—endanger both the public health

and the public welfare of current and future generations by causing or contributing to climate change. See 74 FR 66496 (December 15, 2009). While the EPA’s 2009 endangerment finding was issued for motor vehicles, the EPA referenced the information on endangerment of public health and welfare found in the 2009 endangerment finding as the required information for the recent promulgation of “Emission Guidelines for Greenhouse Gas Emissions from Existing Electric Utility Generating Units,” commonly known as the “Affordable Clean Energy Rule or ACE rule,” which regulates stationary sources. See 84 FR 32520, 32534 n.146 (July 8, 2019). Additionally, the 2009 Endangerment Finding is further reinforced by the findings of the USGCRP’s Fourth National Climate Assessment (NCA4) which is consistent with the Commonwealth’s 2015 and 2020 Climate Change Impacts Assessments. While these Federal studies inform the Department’s decision to regulate CO<sub>2</sub> emissions within this Commonwealth, they are not determinative because this proposed rulemaking would be promulgated by the Board under the authority of the APCA, not the CAA.

In 2015, the Environment and Natural Resources Institute at Penn State University released an updated Climate Change Impacts Assessment for the Department. The 2015 Climate Change Impacts Assessment found that this Commonwealth has undergone a long-term warming of more than 1.8°F over the prior 110 years, and that due to increased GHG emissions, current warming trends are expected to increase at an accelerated rate with average temperatures projected to increase an additional 5.4 degrees by 2050. This warming will have potential adverse impacts related to agriculture, forests, aquatic ecosystems, water resources, wildlife and public health across this Commonwealth. In this Commonwealth, average annual precipitation has increased by approximately 10% over the past 100 years and, by 2050, is expected to increase by an additional 8%, with a 14% increase during the winter season.

In particular, climate change will worsen air quality relative to what it would otherwise be, causing increased respiratory and cardiac illness. Air quality impacts from climate change are due to the combination of pollutants emitted from anthropogenic sources and weather conditions. Climate change can potentially also worsen water quality, affecting health through consumption of diminished quality drinking water and through contact with surface waters during outdoor recreation. The risk of injury and death from extreme weather events could also increase as a consequence of climate change. Additionally, climate change could affect the prevalence and virulence of air-borne infectious diseases such as influenza. In April 2020, the Environment and Natural Resources Institute at Penn State University released an updated Climate Change Impacts Assessment for the Department, which states that the expected disruptions to this Commonwealth’s climate and impacts on this Commonwealth’s climate sensitive sectors remain as dire as presented in the 2015 Climate Change Impacts Assessment.

On November 23, 2018, the USGCRP released the NCA4, a scientific assessment of the National and regional impacts of natural and human-induced climate change. See United States Global Change Research Program, “Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II,” (D.R. Reidmiller et al. eds., 2018), <https://nca2018.globalchange.gov/>. The NCA4 represents the work of over 300 government and non-government experts, led by experts within the EPA, the United States Department of Energy and 11 other Federal agencies. The NCA4 shows

how the impacts of climate change are already occurring across the country and emphasizes that future risks from climate change will depend on the decisions made today. It is worth noting that the NCA4 mentions that the Northeast region is a model for other states, as it has traditionally been a leader in GHG mitigation action.

By 2035, the NCA4 projects that the Northeast will see the largest temperature increase in the country of more than 3.6°F on average higher than the preindustrial era. This would occur as much as 2 decades before global average temperatures reach a similar milestone. The changing climate of the Northeast threatens the health and public welfare of its residents and will lead to health-related impacts and costs, including additional deaths, emergency room visits and hospitalizations, higher risk of infectious diseases, lower quality of life and increased costs associated with healthcare utilization. Mosquitoes, fleas and ticks and the diseases they carry have been a particular concern in the Northeast in recent years. Scientists have linked these diseases, specifically tick-related Lyme disease, to climate change.

Climate change also threatens to reverse the advances in air quality that the states in the Northeast, including this Commonwealth, have worked so hard to achieve over the past few decades. In particular, climate change will increase levels of ground-level ozone pollution in the Northeast through changes in weather and increased ozone precursor emissions. Ozone is an irritant and repeated exposure to ozone pollution for both healthy people and those with existing conditions may cause a variety of adverse health effects, including difficulty in breathing, chest pains, coughing, nausea, throat irritation and congestion. In addition, people with bronchitis, heart disease, emphysema, asthma and reduced lung capacity may have their symptoms exacerbated by ozone pollution. Asthma, in particular, is a significant and growing threat to children and adults in this Commonwealth. The NCA4 refers to this reversal as a “climate penalty” and projects it could cause hundreds more ozone pollution-related deaths per year.

Over the past several decades, the Department has made substantial progress in decreasing ground-level ozone pollution in this Commonwealth, including limiting precursor emissions. However, Bucks, Chester, Delaware, Montgomery and Philadelphia counties are designated as marginal nonattainment areas for the 2015 ozone national ambient air quality standards (NAAQS). See 83 FR 25776 (June 4, 2018). There is still more work that needs to be done to reduce emissions in these nonattainment areas and to avoid backsliding on the improvements to air quality across this Commonwealth. An increase in ground-level ozone levels due to climate change would interfere with continued attainment of the ozone NAAQS, hinder progress in marginal nonattainment areas and put public health and welfare at risk.

*Immediate action is needed to address this Commonwealth's contribution to climate change*

Given the urgency of the climate crisis, including the significant impacts on this Commonwealth, the Board determined that concrete, economically sound and immediate steps to reduce GHG emissions are necessary. As one of the top GHG emitting states in the country, the Board has a compelling interest to reduce GHG emissions to address climate change and protect public health, welfare and the environment. Based on the most recent data from the EPA's State Inventory Tool, in 2017, this Commonwealth generated net GHG emissions equal to 233.20 million metric tons CO<sub>2</sub> equivalent (MMTCO<sub>2</sub>e)

Statewide, the vast majority of which are CO<sub>2</sub> emissions. In the context of the world, this Commonwealth's electricity generation sector alone emits more CO<sub>2</sub> than many entire countries including Greece, Colombia, Sweden, Israel, Singapore, Austria, Peru and Portugal. See Joint Research Centre, European Commission, “JRC Science for Policy Report: Fossil CO<sub>2</sub> emissions of all world countries,” 2018, <https://ec.europa.eu/jrc/en/publication/fossil-co2-emissions-all-world-countries-2018-report>.

Historically, the electricity generation sector has been the leading source of CO<sub>2</sub> emissions in this Commonwealth. Based upon data contained in the Department's 2020 GHG Inventory, 29% of this Commonwealth's total GHG emissions are produced by the electricity generation sector. In recent years, this Commonwealth has seen a shift in the electricity generation portfolio mix, resulting from market forces and the establishment of alternative energy goals, and energy efficiency targets. Since 2005, this Commonwealth's electricity generation has shifted from higher carbon-emitting electricity generation sources, such as coal, to lower and zero emission generation sources, such as natural gas, wind and solar. At the same time, overall energy use in the residential, commercial, transportation and electric power sectors has reduced.

However, looking forward, the Department projects CO<sub>2</sub> emissions from the electricity generating sector will increase due to reduced switching from coal to natural gas, the potential closure of zero carbon emitting nuclear power plants, and the addition of new natural gas-fired units in this Commonwealth. The Three Mile Island nuclear power plant already closed on September 20, 2019, amounting to a loss of 818 MW of carbon free generation. However, the modeling conducted for this proposed rulemaking predicts no further nuclear power plant retirements through 2030 with implementation of this proposed rulemaking. Without this proposed rulemaking, this Commonwealth's nuclear fleet may remain at-risk of closure. In fact, the Beaver Valley nuclear power plant, responsible for 1,845 MW of carbon free generation, recently withdrew its closure announcement, specifically citing this Commonwealth's intended participation in RGGI as a key determinant in continuing operations.

This proposed rulemaking is necessary to ensure CO<sub>2</sub> emissions continue to decrease and at a rate that shields this Commonwealth from the worst impacts of climate change. RGGI plays an important role in providing a platform whereby this Commonwealth can reduce CO<sub>2</sub> emissions using a market-based approach. As the electricity generation sector remains one of the leading sources of CO<sub>2</sub> in this Commonwealth, it is imperative that emissions continue to decrease from that sector.

*The Commonwealth's GHG emission reduction goals*

On January 8, 2019, Governor Tom Wolf signed Executive Order 2019-01, Commonwealth Leadership in Addressing Climate Change and Promoting Energy Conservation and Sustainable Governance, codified at 4 Pa. Code §§ 5.1001—5.1009. This Executive Order set the first ever climate change goal for this Commonwealth to reduce net GHG emissions from 2005 levels by 26% by 2025 and 80% by 2050. These climate change goals align this Commonwealth with the reduction targets under the Paris Agreement aimed at keeping global temperature rise below the 2-degree Celsius threshold. According to climate experts, the 2-degree Celsius threshold is the



level beyond which dire global consequences would occur, including sea level rise, superstorms and crippling heat waves.

On April 29, 2019, the Department issued a Pennsylvania Climate Action Plan that identified GHG emission trends and baselines in this Commonwealth and recommended cost-effective strategies for reducing or offsetting GHG emissions. The Climate Action Plan determined that reducing the overall carbon intensity of the electricity generated in this Commonwealth is one of the most critical strategies for reducing GHG emissions. The Climate Action Plan also identified many different strategies and actions that all Pennsylvanians can take to combat climate change. According to the Climate Action Plan, one of the most cost-effective emissions reduction strategies is to limit CO<sub>2</sub> emissions through an electricity sector cap and trade program. This Commonwealth participating in a cap and trade program is expected to result in the largest near-term reduction in emissions and was deemed cost-effective relative to the social cost of carbon. The Climate Action Plan modeled a cap and trade program that requires a carbon cap equal to a 30% reduction from 2020 CO<sub>2</sub> emissions levels by 2030, which is equivalent to RGGI stringency.

On October 3, 2019, Governor Tom Wolf signed Executive Order 2019-07, Commonwealth Leadership in Addressing Climate Change through Electric Sector Emissions Reductions, codified at 4 Pa. Code §§ 7a.181—7a.183, which directed the Department to use its existing authority under the APCA to develop this proposed rulemaking to abate, control or limit CO<sub>2</sub> emissions from fossil fuel-fired electric power generators. This Executive Order also directed the Department to present this proposed rulemaking to the Board by July 31, 2020. On June 22, 2020, Governor Tom Wolf amended this Executive Order to extend the deadline to September 15, 2020. As directed by this Executive Order, this proposed rulemaking establishes a CO<sub>2</sub> budget consistent in stringency to that established by the participating states, provides for the annual or more frequent auction of CO<sub>2</sub> emissions allowances through a market-based mechanism, and is sufficiently consistent with the RGGI Model Rule such that CO<sub>2</sub> allowances may be traded with holders of allowances from other states.

Considering that this Commonwealth has the fourth leading CO<sub>2</sub> emitting electricity generation sector in the country, this proposed rulemaking is a significant component in achieving the Commonwealth's goals to reduce GHG emissions. Although this proposed rulemaking will not solve global climate change, it will aid this Commonwealth in addressing its share of the impact, joining other states and countries that are addressing their own impacts. The statutory authority for this proposed rulemaking, the APCA, is built on a precautionary principle to protect the air resources of this Commonwealth for the protection of public health and welfare and the environment, including plant and animal life and recreational resources, as well as development, attraction and expansion of industry, commerce and agriculture. To be proactive, this proposed rulemaking is needed to address this Commonwealth's contributions to climate change, particularly CO<sub>2</sub> emissions. The Board determined to address CO<sub>2</sub> emissions through a regional initiative because regional cap and trade programs have proven to be beneficial and cost-effective at reducing air pollutant emissions. In fact, this Commonwealth has and continues to participate in successful regional cap and trade programs.

### *History and success of this Commonwealth's participation in cap and trade programs*

In the 1990 CAA Amendments, the United States Congress determined that the use of market-based principles, such as emissions banking and trading are effective ways of achieving emission reductions. According to the EPA, emissions trading programs are best implemented when the environment and public health concerns occur over a relatively large geographic area and effectively designed emissions trading programs provide flexibility for individual emissions sources to tailor their compliance path to their needs. The EPA has also determined that reducing emissions using a market-based system provides regulated sources with the flexibility to select the most cost-effective approach to reduce emissions and has proven to be a highly effective way to achieve emission reductions, meet environmental goals, and improve human health. In contrast to traditional command and control regulatory methods that establish specific emissions limitations and technology use with limited or no flexibility, cap and trade programs harness the economic incentives of the market to reduce pollution. The Board has a decades-long history of promulgating regulations that have established this Commonwealth's participation in successful cap and trade programs.

Beginning in 1995, this Commonwealth participated in the first national cap and trade program in the United States, the Acid Rain Program, which was established under Title IV of the 1990 CAA Amendments and required, in part, major emission reductions of sulfur dioxide (SO<sub>2</sub>) through a permanent cap on the total amount emitted by EGUs. For the first time, the Acid Rain Program introduced a system of allowance trading that used market-based incentives to reduce pollution. The Acid Rain Program reduced SO<sub>2</sub> emissions by 14.5 million tons (92%) from 1990 levels and 16.0 million tons (93%) from 1980 levels. The undisputed success of achieving significant emission reductions in a cost-effective manner led to the application of the market-based cap and trade tool for other regional environmental problems.

From 1999 to 2002, this Commonwealth participated in the Ozone Transport Commission's (OTC) NO<sub>x</sub> Budget Program, an allowance trading program designed to reduce summertime NO<sub>x</sub> emissions from EGUs to reduce ground-level ozone, which included all of the current states participating in RGGI. According to the OTC's NO<sub>x</sub> Budget Program 1999—2002 Progress Report, NO<sub>x</sub> Budget Program units successfully reduced ozone season NO<sub>x</sub> emissions in 2002 by nearly 280,000 tons, or about 60%, from 1990 baseline levels, achieving greater reductions than required each year of the program. Based on the success of the OTC's NO<sub>x</sub> Budget Program and the Acid Rain Program, in 2003 the EPA implemented a regional NO<sub>x</sub> cap and trade program under the NO<sub>x</sub> SIP Call, which closely resembled the OTC NO<sub>x</sub> Budget Program. The EPA again noted the cost savings of achieving emissions reductions through trading.

Beginning in 2009, the EPA's NO<sub>x</sub> Budget Trading Program was replaced by the Clean Air Interstate Rule (CAIR) trading program, covering 28 eastern states, which required further summertime NO<sub>x</sub> reductions from the power sector as well as SO<sub>2</sub> reductions. Finally, in 2015, CAIR was replaced by the Cross-State Air Pollution Rule trading program.

*Authority to regulate CO<sub>2</sub> emissions through a cap and trade program*

While the Department developed this proposed rulemaking under the direction of Executive Order 2019-07, the Board has the authority to promulgate this proposed rulemaking under the APCA. Through the APCA, the Legislature granted the Department and the Board the authority to protect the air resources of this Commonwealth, which is inclusive of controlling CO<sub>2</sub> pollution. CO<sub>2</sub> falls under the definition of “air pollution” in section 3 of the APCA (35 P.S. § 4003). The Board has the authority under section 5(a)(1) of the APCA to adopt rules and regulations for the prevention, control, reduction and abatement of air pollution in this Commonwealth. Further, the Commonwealth Court has found that the regulation of air pollution has long been a valid public interest. See e.g., *Bortz Coal Co., v. Commonwealth*, 279 A.2d 388, 391 (Pa. Cmwlth. 1971); *DER v. Pennsylvania Power Co.*, 384 A.2d 273, 284 (Pa. Cmwlth. 1978); *Commonwealth v. Bethlehem Steel Corporation*, 367 A.2d 222, 225 (Pa. 1976). Moreover, the Commonwealth Court has endorsed the Department’s position that the General Assembly, through the APCA, gave the agency the authority to reduce GHG emissions, including CO<sub>2</sub>. *Wolf v. Funk*, 144 A.3d 228, 250 (Pa. Cmwlth. 2016).

As mentioned previously, numerous sources, including the EPA, the Penn State University, the USGCRP and the IPCC, have confirmed that CO<sub>2</sub> emissions cause harmful air pollution that is inimical to the public health, safety and welfare, as well as human, plant and animal life. CO<sub>2</sub> is also a GHG and the largest contributor to climate change. Thus, regulating sources of CO<sub>2</sub> emissions is necessary to protect the public health and welfare from harmful air pollution and to address climate change.

As mentioned previously, this Commonwealth has and continues to participate in cap and trade programs. Specifically, the Board promulgated the NO<sub>x</sub> Budget Trading Program in Chapter 145, Subchapter A (relating to NO<sub>x</sub> Budget Trading Program) and the CAIR NO<sub>x</sub> and SO<sub>2</sub> Trading Programs in Chapter 145, Subchapter D (relating to CAIR NO<sub>x</sub> and SO<sub>2</sub> Trading Programs). See 30 Pa.B. 4899 (September 23, 2000) and 38 Pa.B. 1705 (April 12, 2008). Although those cap and trade program regulations were promulgated in response to initiatives at the Federal level, both subchapters were promulgated under the broad authority of section 5(a)(1) of the APCA, as is this proposed rulemaking. The statutory authority granted to the Board under section 5(a)(1) of the APCA is broad and unrestrictive related to the adoption of any rule or regulation for the “prevention, control, reduction and abatement of air pollution.” The comprehensive scope of this directive provides the Board with the discretion to promulgate a trading program to reduce CO<sub>2</sub> emissions from fossil fuel-fired EGUs in this Commonwealth.

*Regional Greenhouse Gas Initiative (RGGI)*

RGGI is a cooperative regional market-based cap-and-trade program designed to reduce CO<sub>2</sub> emissions from fossil fuel-fired EGUs. RGGI is currently composed of ten northeastern states, including Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Rhode Island and Vermont. Since its inception on January 1, 2009, RGGI has utilized a market-based mechanism to cap and cost-effectively reduce CO<sub>2</sub> emissions that cause climate change. Because CO<sub>2</sub> from large fossil fuel-fired EGUs is a major contributor to regional climate change, the participating states developed a regional approach to address CO<sub>2</sub> emissions. This regional approach resulted in a Model Rule appli-

cable to fossil fuel-fired EGUs with a nameplate capacity equal to or greater than 25 MWe. RGGI is implemented in the participating states through each state’s independent CO<sub>2</sub> Budget Trading Program regulations, based on the Model Rule, which link together.

RGGI is a “cap and trade” program that sets a regulatory limit on CO<sub>2</sub> emissions from fossil fuel-fired EGUs and permits trading of CO<sub>2</sub> allowances to effect cost efficient compliance with the regulatory limit. RGGI is also referred to as a “cap and invest” program, because unlike traditional cap and trade programs, RGGI provides a “two-prong” approach to reducing CO<sub>2</sub> emissions from fossil fuel-fired EGUs. The first prong is a declining CO<sub>2</sub> emissions budget and the second prong involves investment of the proceeds resulting from the auction of CO<sub>2</sub> allowances to further reduce CO<sub>2</sub> emissions.

*CO<sub>2</sub> emissions budget and CO<sub>2</sub> allowance budget*

Each participating state establishes its own annual CO<sub>2</sub> emissions budget which sets the total amount of CO<sub>2</sub> emitted from fossil fuel-fired EGUs in a year. What is commonly referred to as the “RGGI cap” on emissions is a reference to the total of all the state CO<sub>2</sub> emissions budgets. This proposed rulemaking includes a declining annual CO<sub>2</sub> emissions budget, which starts at 78,000,000 tons in 2022 and ends at 58,085,040 tons in 2030. This is anticipated to reduce CO<sub>2</sub> emissions in this Commonwealth by 31% compared to 2019. The declining annual CO<sub>2</sub> emissions budget is equivalent to the CO<sub>2</sub> allowance budget, which is the number of CO<sub>2</sub> allowances available each year. A CO<sub>2</sub> allowance represents a limited authorization by the Department or a participating state under the CO<sub>2</sub> Budget Trading Program to emit up to one ton of CO<sub>2</sub>. The number of CO<sub>2</sub> allowances available each year decreases along with the CO<sub>2</sub> emissions budget.

One of the benefits of participating in a regional market-based program is that CO<sub>2</sub> allowances are fungible across the participating states. This means that regulated sources within this Commonwealth may, at their option, purchase or sell CO<sub>2</sub> allowances with other regulated sources inside or outside of this Commonwealth. Although this Commonwealth has an established CO<sub>2</sub> allowance budget for each year, this Commonwealth’s CO<sub>2</sub> allowances are available to meet the compliance obligations in any other participating state and vice versa at the option of those regulated sources. Therefore, CO<sub>2</sub> emissions from this Commonwealth’s power sector are not “capped” by the CO<sub>2</sub> emissions budget, meaning they are not limited to strictly the amount of this Commonwealth’s CO<sub>2</sub> allowances. This provides additional compliance flexibility and the regional market assists in achieving least cost compliance for all participating states.

*Consistent with framework of the RGGI Model Rule*

As mentioned previously, the participating states developed a Model Rule to use as the framework for each state’s independent CO<sub>2</sub> Budget Trading Program regulation. The development of the RGGI Model Rule was supported by an extensive regional stakeholder process that engaged the regulated community, environmental nonprofits and other organizations with technical expertise in the design of cap and trade programs. The Board is familiar with the structure of the RGGI Model Rule, because it was drafted based on the language in the EPA’s NO<sub>x</sub> Budget Trading Program rule in 40 CFR Part 96 (relating to NO<sub>x</sub> budget trading program and CAIR NO<sub>x</sub> and SO<sub>2</sub> trading programs for state implementation plans), which the Board used as a model for Chapter 145, Subchapter A.

States that participate in RGGI develop regulations that are compatible with the RGGI Model Rule to ensure consistency among the individual programs. Key areas of compatibility include alignment of the main program elements, stringency of the CO<sub>2</sub> allowance budgets and consistency of regulatory language. This consistency is necessary to ensure the fungibility of CO<sub>2</sub> allowances across the participating states, which supports the regional trading of CO<sub>2</sub> allowances and the use of a CO<sub>2</sub> allowance issued in one participating state for compliance by a regulated source in another participating state.

This proposed rulemaking therefore adopts the main program elements of the RGGI Model Rule, including the definitions, applicability, standard regulatory requirements, monitoring and reporting requirements, the CO<sub>2</sub> Allowance Tracking System (COATS), the emissions containment reserve, the cost containment reserve and the CO<sub>2</sub> emissions offset project provisions. The CO<sub>2</sub> allowance budgets in this proposed rulemaking are sufficiently stringent to align with RGGI's goal of reducing CO<sub>2</sub> emissions by 30% from 2020 to 2030. This proposed rulemaking also contains regulatory language consistent with the RGGI, Inc. auction platform, the online platform used to sell CO<sub>2</sub> allowances. RGGI, Inc. is a nonprofit corporation created to provide technical and administrative support services to the participating states in the development and implementation of their CO<sub>2</sub> Budget Trading Programs. Each participating state is also allotted two positions on the Board of Directors of RGGI, Inc. Under this proposed rulemaking, RGGI, Inc. would provide technical and administrative services to support the Department's implementation of this proposed rulemaking. This support would include maintaining COATS and the auction platform and providing assistance with market monitoring. Any assistance provided by RGGI, Inc. would follow the requirements of this proposed rulemaking. RGGI, Inc. has neither any regulatory or enforcement authority within this Commonwealth nor the ability to restrict or interfere with the Department's implementation of this proposed rulemaking.

Each participating state's regulation provides for the distribution of CO<sub>2</sub> allowances from its CO<sub>2</sub> allowance budget. The majority of CO<sub>2</sub> allowances are distributed at auction and each CO<sub>2</sub> allowance sold at auction returns proceeds from the sale to that state to invest in energy efficiency, renewable energy and GHG abatement programs. Some states have elected to designate a limited amount of CO<sub>2</sub> allowances to be "set-aside" in a designated account and distributed to advance individual state policy goals and objectives. Since this proposed rulemaking is consistent with the RGGI Model Rule, the Commonwealth's CO<sub>2</sub> allowances will have equal value to the CO<sub>2</sub> allowances held in the other participating states, meaning they may be freely acquired and traded across the region.

Although CO<sub>2</sub> allocation provisions may vary from state to state, to be consistent with the RGGI Model Rule each participating state allocates a minimum of 25% of its CO<sub>2</sub> allowance budget to a general account from which CO<sub>2</sub> allowances will be sold or distributed to provide funds for energy efficiency measures, renewable or noncarbon-emitting energy technologies, and CO<sub>2</sub> emissions abatement technologies, as well as programmatic costs. Consistent with the RGGI Model Rule, this proposed rulemaking establishes a general account from which CO<sub>2</sub> allowances will be sold or distributed, which is labeled as the Department's air pollution reduction account. Each year, the Department will allocate CO<sub>2</sub> allowances representing 100% of the tons of CO<sub>2</sub> emitted from the

Commonwealth's CO<sub>2</sub> allowance budget to the air pollution reduction account, except for the CO<sub>2</sub> allowances that the Department has set aside for a designated purpose as discussed in the following section. CO<sub>2</sub> allowances in the air pollution reduction account will be sold or distributed to provide funds for use in the elimination of air pollution and programmatic costs.

#### *Modifications from RGGI Model Rule*

While this proposed rulemaking is sufficiently consistent with the Model Rule and corresponding regulations in the participating states, the Board, in the exercise of its own independent rulemaking authority, also accounts for the unique environmental, energy and economic intricacies of this Commonwealth. This provides the Board the flexibility to limit CO<sub>2</sub> emissions from fossil fuel-fired EGUs in a way that aligns with the other participating states, while tailoring this proposed rulemaking to this Commonwealth's energy markets. In this proposed rulemaking, the Board made modifications from the language in the Model Rule to include permitting requirements and definitions specific to this Commonwealth, as well as stylistic changes. The Board also made adjustments to the language, including the adjustment for banked allowances and control periods, to reflect the timing of this Commonwealth's participation in RGGI. In addition to these modifications, there are five main areas in which this proposed rulemaking differs from the Model Rule.

First, under § 145.342(i) (relating to CO<sub>2</sub> allowance allocations), the Department proposes to set aside 9,300,000 CO<sub>2</sub> allowances at the beginning of each year for waste coal-fired units located in this Commonwealth. The Board is establishing this waste coal set-aside in this proposed rulemaking because waste coal-fired units provide an environmental benefit of reducing the amount of waste coal piles in this Commonwealth. Reducing waste coal piles is a significant environmental issue in this Commonwealth, because waste coal piles cause air and water pollution, as well as safety concerns. Waste coal-fired units burn waste coal to generate electricity thereby reducing the size, number and impacts of these piles otherwise abandoned and allowed to mobilize and negatively impact air and water quality in this Commonwealth. In recent years, waste coal-fired units have struggled to compete in the energy market, due in part to low natural gas prices, and several units have shut down or announced anticipated closure dates. Given the environmental benefit provided, the Board determined that it is necessary to assist owners or operators of waste coal-fired units with meeting their compliance obligation under this proposed rulemaking. This legacy environmental issue from this Commonwealth's long history of coal mining further underscores why it is vital to not leave additional environmental issues, like climate change, for future generations to solve.

By providing a set aside, as opposed to an exemption, the CO<sub>2</sub> emissions from waste coal-fired units are included in this Commonwealth's CO<sub>2</sub> emissions budget and owners or operators of waste coal-fired units are still required to satisfy compliance of all the regulatory requirements in this proposed rulemaking. After reviewing the last 5 years of CO<sub>2</sub> emission data from waste coal-fired units, the Department determined that the CO<sub>2</sub> allowance set aside should be equal to the total of each waste coal-fired unit's highest year of CO<sub>2</sub> emissions from that 5-year period. That total is 9,300,000 tons of CO<sub>2</sub> emissions. Thus, the Department will set aside 9,300,000 CO<sub>2</sub> allowances annually. Each year, the Department will allocate the CO<sub>2</sub> allowances directly to the compliance



accounts of the waste coal-fired units equal to the unit's actual emissions. However, if the waste coal-fired units emit over 9,300,000 tons of CO<sub>2</sub> emissions sector-wide in any year, then the units must acquire the remaining CO<sub>2</sub> allowances needed to satisfy their compliance obligation.

Second, a strategic use set-aside allocation under § 145.342(j) is proposed to be added. By April 1 of each calendar year, the Department will allocate any undistributed CO<sub>2</sub> allowances from the waste coal set-aside to the strategic use set-aside account. Since generation from waste coal-fired units has been declining in this Commonwealth, waste coal fired-units may emit less than 9,300,000 tons each year and the Department will be left with undistributed CO<sub>2</sub> allowances. Under the strategic use set-aside, the Department will allocate these undistributed CO<sub>2</sub> allowances directly to eligible projects that eliminate air pollution. The Board is establishing the strategic use set-aside particularly to encourage and foster promotion of energy efficiency measures, promote renewable or noncarbon-emitting energy technologies, and stimulate or reward investment in the development of innovative carbon emissions abatement technologies.

Third, a set-aside provision under § 145.342(k) for cogeneration units, including combined heat and power systems (CHP) is proposed to be added. The Board is establishing this set-aside because cogeneration units concurrently produce electricity and useful thermal energy, making them energy efficient and environmentally beneficial. Under the cogeneration set-aside, the Department will adjust the compliance obligation of a cogeneration unit by reducing the total CO<sub>2</sub> emissions by an amount equal to the CO<sub>2</sub> that is emitted as a result of providing useful thermal energy or electricity, or both, supplied directly to a co-located facility during the allocation year. The Department will only provide CO<sub>2</sub> allowances in this set-aside equal to the compliance adjustment. The cogeneration unit will be responsible for obtaining the remaining CO<sub>2</sub> allowances needed to satisfy the unit's compliance obligation. Unlike the waste coal set-aside, the Department would not distribute CO<sub>2</sub> allowances directly to the unit, but rather retire CO<sub>2</sub> allowances on behalf of the unit to reduce its compliance obligation. Also, cogeneration units must fill out an application and provide information to the Department to receive a compliance adjustment.

Fourth, under § 145.305 (relating to limited exemption for CO<sub>2</sub> budget units with electrical output to the electric grid restricted by permit conditions), the Board proposes to provide additional flexibility in the form of a limited exemption for cogeneration units that are interconnected and supply power to a manufacturing facility. A cogeneration unit that supplies less than 15% of its annual total useful energy to the electric grid, not including energy sent to the interconnected manufacturing facility, does not have a compliance obligation under this proposed rulemaking. The owner or operator of the cogeneration unit claiming this limited exemption must have a permit issued by the Department containing a condition restricting the supply to the electric grid. This limited exemption is in addition to the exemption in the RGGI Model Rule for fossil fuel-fired EGUs with a capacity of 25 MWe or greater that supply less than 10% of annual gross generation to the electric grid. The Board is including this additional exemption for cogeneration units that primarily send energy to an interconnected manufacturing facility because these cogeneration units provide a CO<sub>2</sub> emission reduction benefit. These units provide useful thermal energy, a byproduct of electricity generation, to the manufacturing facility which helps prevent the need

for the facility to run additional boilers onsite to generate electricity which in turn avoids additional CO<sub>2</sub> emissions.

Lastly, regulatory language is proposed to be added on the procedure for auctioning CO<sub>2</sub> allowances, which is not contained in the RGGI Model Rule. Several participating states have also added auction procedure language to their CO<sub>2</sub> Budget Trading Program regulations or developed separate auction regulations. By including the auction procedure in this proposed rulemaking, the Board seeks to ensure that auction participants fully understand the auction process and the associated requirements.

In § 145.401 (relating to auction of CO<sub>2</sub> allowances), the Board proposes that the Department will participate in multistate CO<sub>2</sub> allowance auctions in coordination with other participating states based on specific conditions. First, a multistate auction capability and process must be in place for the participating states. A multistate auction must also provide benefits to this Commonwealth that meet or exceed the benefits conferred on this Commonwealth through a Pennsylvania-run auction process. The criteria that the Department will use to determine if the multistate auction "meets or exceeds the benefits" of a Pennsylvania-run auction are whether the auction results in reduced emissions and environmental, public health and welfare, and economic benefits. As discussed further under section F, participation in RGGI would provide those benefits to this Commonwealth. Additionally, the multistate auction process must be consistent with the process described in this proposed rulemaking and include monitoring of each CO<sub>2</sub> allowance auction by an independent market monitor. Since the multistate auctions conducted by RGGI, Inc. satisfy all four of the conditions, the Department will participate in the multistate auctions. However, the Board also states that if the Department finds these four conditions are no longer met, the Department may determine to conduct a Pennsylvania-run auction. By including the ability to conduct a Pennsylvania-run action in this proposed rulemaking, the Board provides for flexibility in case the benefits of the multistate auctions diminish in the future.

*Compliance and the RGGI CO<sub>2</sub> Allowance Tracking System (COATS)*

Under § 145.304 (relating to applicability), it is proposed that the owner or operator of a fossil-fuel-fired EGU with a nameplate capacity equal to or greater than 25 MWe that sends more than 10% of its annual gross generation to the electric grid would have a compliance obligation. These regulated EGUs are referred to as "CO<sub>2</sub> budget units" and a facility that includes one or more CO<sub>2</sub> budget units is a "CO<sub>2</sub> budget source." Under § 145.306 (relating to standard requirements), it is proposed that the owner or operator of each CO<sub>2</sub> budget source will be required to have a permit under Chapter 127 (relating to construction, modification, reactivation and operation of sources) which incorporates the requirements of the CO<sub>2</sub> Budget Trading Program. The owner or operator will be required to operate the CO<sub>2</sub> budget source and each CO<sub>2</sub> budget unit at the source in compliance with the permit.

Based on the most recent data from the EPA's Clean Air Market Division, the EIA and the Department's emission inventory, the Department estimates that as of the end of 2019, 57 CO<sub>2</sub> budget sources (facilities) with 140 CO<sub>2</sub> budget units would have a compliance obligation under this proposed rulemaking. However, due to the dynamic nature of the electricity generation sector, the number of covered facilities will likely change by the implementation date, January 1, 2022, of this proposed rulemaking. The Department projects based on announced closures and future firm capacity builds that on

January 1, 2022, there will be 62 CO<sub>2</sub> budget sources with 150 CO<sub>2</sub> budget units with a compliance obligation under this proposed rulemaking. The Department conducted an analysis of power sector emissions and the facilities that meet the applicability criteria in this proposed rulemaking and determined that around 99% of this Commonwealth's power sector CO<sub>2</sub> emissions would be covered under this proposed rulemaking.

Within the participating states and under this proposed rulemaking, the owner or operator of a CO<sub>2</sub> budget unit must obtain one CO<sub>2</sub> allowance for each ton of CO<sub>2</sub> emitted from the CO<sub>2</sub> budget unit each year. The owner or operator may use a CO<sub>2</sub> allowance issued by any participating state to demonstrate compliance with any state's regulation, including this proposed rulemaking. RGGI operates on 3-year control periods for compliance, meaning full compliance is evaluated at the end of each 3-year control period. As described under § 145.306(c), at the end of a control period, the owner or operator is required as a permit condition to hold enough CO<sub>2</sub> allowances in their compliance account to cover the CO<sub>2</sub> budget source's CO<sub>2</sub> emissions during the period. The owner or operator must also show interim control period compliance during each of the first two calendar years of a control period. During each interim control period, the owner or operator must hold CO<sub>2</sub> allowances equal to 50% of CO<sub>2</sub> emissions in the compliance account for the CO<sub>2</sub> budget source. As outlined under § 145.355 (relating to compliance), at the end of the control period or interim control period, CO<sub>2</sub> allowances will be deducted from each CO<sub>2</sub> budget source's compliance account to cover each of the CO<sub>2</sub> budget unit's CO<sub>2</sub> emissions at the source for the control period or interim control period.

All owners or operators of CO<sub>2</sub> budget sources are required to open a compliance account in COATS to transfer and hold CO<sub>2</sub> allowances for compliance purposes. The Department will use COATS to determine compliance with this proposed rulemaking by comparing the covered emissions of a CO<sub>2</sub> budget source with the CO<sub>2</sub> allowances held in its compliance account. COATS is a publicly accessible platform that records and tracks data for each state's CO<sub>2</sub> Budget Trading Program, including the transfer of CO<sub>2</sub> allowances that are offered for sale by the participating states and purchased in the quarterly auctions. On the COATS web site, the public can view and download reports of RGGI program data and CO<sub>2</sub> allowance market activity. COATS is used to allocate, award and transfer CO<sub>2</sub> allowances, to certify and provide CO<sub>2</sub> allowances for compliance-related tasks, and to register and submit applications and reports for offset projects.

Under § 145.352 (relating to establishment of accounts), any person may apply to open a general account for the purpose of holding and transferring CO<sub>2</sub> allowances by submitting a complete application for a general account to the Department or its agent. A general account can be used for the receipt, transfer and banking of CO<sub>2</sub> allowances in COATS, but unlike a compliance account, it does not provide for the CO<sub>2</sub> allowance compliance deduction process outlined in this proposed rulemaking. A compliance account is associated with an electric generation facility regulated under a state CO<sub>2</sub> Budget Trading Program, a CO<sub>2</sub> budget source. These accounts are used for compliance with the requirements of each state's CO<sub>2</sub> Budget Trading Program. Only one compliance account will be assigned to each CO<sub>2</sub> budget source. An applicant must have either a general or compliance account to participate in CO<sub>2</sub> allowance auctions. CO<sub>2</sub> allowances

can be "banked" meaning they may be held for future compliance as they have no expiration date.

CO<sub>2</sub> allowances may be acquired through purchases in quarterly multistate auctions, through secondary markets, or by obtaining CO<sub>2</sub> offset allowances. Once a CO<sub>2</sub> allowance is purchased in an auction, it can then be resold in the secondary market. The secondary market assists with compliance by allowing CO<sub>2</sub> allowances to be traded in between quarterly auctions. As previously mentioned, every auction is overseen by an independent market monitor. Trading in the secondary market is also monitored by an independent market monitor to identify anticompetitive conduct. The quarterly multistate auction process continues each consecutive year of the CO<sub>2</sub> Budget Trading Program with fewer CO<sub>2</sub> allowances distributed into the auctions by the participating states each year.

As provided under section 4 of the Environmental Hearing Board Act (35 P.S. § 7514) persons adversely affected by a Department action have the opportunity to appeal the action to the Environmental Hearing Board.

#### *Offsets*

As an additional compliance option under this proposed rulemaking, owners or operators of CO<sub>2</sub> budget sources may complete an offset project to reduce or avoid atmospheric loading of CO<sub>2</sub> or CO<sub>2</sub> equivalent (CO<sub>2</sub>e) emissions. CO<sub>2</sub>e refers to the quantity of a given GHG, other than CO<sub>2</sub>, multiplied by its global warming potential. By completing an offset project, the owner or operator will generate CO<sub>2</sub> offset allowances which can be used to offset a portion of the CO<sub>2</sub> budget source's emissions. A CO<sub>2</sub> offset allowance is equivalent to a CO<sub>2</sub> allowance, however a CO<sub>2</sub> offset allowance represents a project-based GHG emission reduction outside of the electric generation sector. This project must be in addition to not in place of an existing legal requirement. Under § 145.355(a)(3), consistent with the RGGI Model Rule and the regulations in the participating states, the number of CO<sub>2</sub> offset allowances available to be deducted for compliance purposes may not exceed 3.3% of the CO<sub>2</sub> budget source's CO<sub>2</sub> emissions for a control period or interim control period.

As described under § 145.395 (relating to CO<sub>2</sub> emissions offset project standards), the three eligible offset categories include landfill methane capture and destruction projects, projects that sequester carbon due to reforestation, improved forest management or avoided conversion, and projects that avoid methane emissions from agricultural manure management operations. Each of the three offset categories are designed to further reduce or sequester emissions of CO<sub>2</sub> or methane within the northeast region. In the RGGI Model Rule, the participating states cooperatively developed prescriptive regulatory requirements for each of the offset categories that have been incorporated into this proposed rulemaking. These requirements ensure that awarded CO<sub>2</sub> offset allowances represent CO<sub>2</sub>e emission reductions or carbon sequestration that are real, additional, verifiable, enforceable and permanent.

Under § 145.393 (relating to general requirements), offset projects must be located in this Commonwealth or partly in this Commonwealth and partly within one or more of the participating states, provided that the majority of the CO<sub>2</sub>e emission reductions or carbon sequestration occurs in this Commonwealth. Massachusetts, New Hampshire and Rhode Island have determined not to award CO<sub>2</sub> offset allowances, but CO<sub>2</sub> budget sources



located within those states may use CO<sub>2</sub> offset allowances awarded by a participating state, including this Commonwealth. By recognizing CO<sub>2</sub>e emission reductions and carbon sequestration outside the electric generation sector and this Commonwealth's CO<sub>2</sub> emissions budget, offset projects provide compliance flexibility and create opportunities for low-cost emission reductions and other co-benefits across various sectors. Thus, including offset projects in this proposed rulemaking provides two crucial benefits, an additional compliance option for owners or operators and the potential for this Commonwealth to further reduce GHG emissions.

#### *Auction proceeds*

The auction proceeds are an integral part to carrying out the primary purpose of this proposed rulemaking which is to reduce CO<sub>2</sub> emissions in this Commonwealth in an economically efficient manner. By requiring the attainment of CO<sub>2</sub> allowances, this proposed rulemaking establishes a monetary obligation per ton of CO<sub>2</sub> emitted from a CO<sub>2</sub> budget source. The value of CO<sub>2</sub> allowances is used to further support the CO<sub>2</sub> Budget Trading Program and reduce GHG emissions and any associated costs related to achieving the emission reduction goals. The CO<sub>2</sub> allowances purchased in the multistate auctions generate proceeds that are provided back to the participating states, including this Commonwealth, for investment in initiatives that will further reduce CO<sub>2</sub> emissions. The amount of revenue generated each year is a function of the CO<sub>2</sub> allowance budget and the CO<sub>2</sub> allowance price. Each participating state determines how best to invest auction proceeds to provide public health benefits and further reduce GHG emissions. Historically, RGGI-funded programs, including energy efficiency, clean and renewable energy, GHG abatement and direct bill assistance programs, have saved consumers money and helped support businesses, all with a net positive economic impact.

As provided under section 9.2(a) of the APCA (35 P.S. § 4009.2(a)), this Commonwealth's auction proceeds will be held in a subaccount within the Clean Air Fund, which is administered by the Department "for the use in the elimination of air pollution." Section 9.2(a) of the APCA authorizes the Department to establish separate accounts in the Clean Air Fund as may be necessary or appropriate to implement the requirements of the APCA. Under section 9.2(a) of the APCA, the Board was required to adopt a regulation for the management and use of the money in the Clean Air Fund. The Board adopted Chapter 143 (relating to disbursements from the Clean Air Fund) to provide for the monies paid into the Clean Air Fund to be disbursed at the discretion of the Secretary for use in the elimination of air pollution. See 25 Pa. Code § 143.1(a) (relating to general). Under § 143.1(b), the full and normal range of activities of the Department are considered to contribute to the elimination of air pollution, including purchase of contractual services and payment of the costs of a public project necessary to abate air pollution. The investment of auction proceeds is discussed further under section F.

#### *Benefits*

In addition to decreasing CO<sub>2</sub> emissions and addressing this Commonwealth's contribution to regional climate change impacts, this proposed rulemaking would provide numerous benefits to public health and welfare and the environment. The benefits include job creation and worker training, decreased incidences of asthma, respiratory illness and hospital visits, avoidance of premature deaths, avoidance of lost work and school days due to

illness and future electric bill savings. This Commonwealth will also see a decrease in harmful NO<sub>x</sub>, SO<sub>2</sub> and particulate matter (PM) emissions, as well as ground level ozone pollution. This will particularly benefit those most often impacted by marginal air quality, such as low income and environmental justice communities. Emerging evidence links chronic exposure to air pollution with higher rates of morbidity and mortality from the novel coronavirus (COVID-19). As such, reductions in CO<sub>2</sub> emissions are even more significant now more than ever before. The COVID-19 pandemic has resulted in a renewed focus on climate change, local air quality impacts, and opportunities for economic development, all areas where RGGI participation can provide value. The benefits of this proposed rulemaking are discussed further under section F.

#### *RGGI provides regulatory certainty*

This proposed rulemaking provides regulatory certainty for CO<sub>2</sub> budget sources in this Commonwealth. Although RGGI is a market-based approach, there are also price fluctuation protections that are built into the auction platform to help ensure that CO<sub>2</sub> allowance prices are predictable. Specifically, there are auction mechanisms that identify a precipitous increase or decrease in price, and trigger what are referred to as the Cost Containment Reserve (CCR) and Emissions Containment Reserve (ECR). The CCR process triggers additional CO<sub>2</sub> allowances to be offered for sale in the case of higher than projected emissions reduction costs. Similarly, states implementing the ECR, including this Commonwealth, will withhold CO<sub>2</sub> allowances from the auction to secure additional emissions reductions if prices fall below the established trigger price, so that the ECR will only trigger if emission reduction costs are lower than projected. This provides predictability in terms of both the cost of compliance for covered entities, and a relatively predictable stream of revenue for each participating state. CO<sub>2</sub> allowances may also be purchased through the secondary market when costs are low and held for future compliance years.

#### *Public outreach*

As required under the Regulatory Review Act (71 P.S. §§ 745.1—745.15) and further emphasized by Executive Order 2019-07, the Department conducted a robust public outreach effort including the business community, energy producers, energy suppliers, organized labor, environmental groups, low-income and environmental justice advocates and others to ensure that the development and implementation of this program results in reduced emissions, economic gains and consumer savings.

The Department consulted with the Air Quality Technical Advisory Committee (AQTAC) and the Citizens Advisory Council (CAC) in the development of this proposed rulemaking. On December 12, 2019, the Department presented concepts to AQTAC on a potential rulemaking to participate in RGGI. The Department returned to AQTAC on February 13, 2020, to discuss the preliminary draft Annex A. At the April 16, 2020, AQTAC meeting, the Department provided a brief update on the development of this proposed rulemaking. In response to requests from committee members for more opportunities to learn about the CO<sub>2</sub> Budget Trading Program, on April 23, 2020, the Department presented on and provided the modeling results associated with this proposed rulemaking in a Special Joint Informational Meeting of AQTAC and CAC. The meeting was held by means of a webinar and over 225 members of the public were able to listen to the

modeling results. Individuals interested in hearing the modeling results can also watch the meeting at any time through a link on the Department's web site.

AQTAC was established under section 7.6 of the APCA (35 P.S. § 4007.6) to provide technical advice at the request of the Department on policies, guidance and regulations. On May 7, 2020, this proposed rulemaking was presented to AQTAC for review and technical advice before the Department moved this proposed rulemaking forward to the Board for consideration. The meeting was held by means of a webinar and over 200 members of the public had the opportunity to listen to the discussion and to request to provide comments. The AQTAC members were divided on whether to submit a formal letter of concurrence and ultimately declined to do so without a majority decision. The Department will continue to seek technical advice from AQTAC and address member questions and concerns throughout the rulemaking process.

The opportunity to provide public comment on this proposed rulemaking to AQTAC members was provided on three occasions, at the February 13, 2020, April 16, 2020, and May 7, 2020, AQTAC meetings.

Under section 7.6 of the APCA, the Department is required to consult with CAC in the development of the Department's regulations and State Implementation Plans. On November 19, 2019, the Department presented concepts to CAC on a potential rulemaking to participate in RGGI. The Department returned to CAC on February 18, 2020, for an informational presentation on a preliminary draft Annex A. The Department also conferred with CAC's Policy and Regulatory Oversight Committee concerning this proposed rulemaking on May 8, 2020. At the May 19, 2020, CAC meeting, this proposed rulemaking was presented to CAC for review before the Department moved this proposed rulemaking forward to the Board for consideration. The CAC members ultimately declined to submit a formal letter of concurrence with the Department's recommendation to move this proposed rulemaking forward to the Board for consideration. The Department will continue to consult with CAC and address member questions and concerns throughout the rulemaking process.

The opportunity to provide public comment on this proposed rulemaking to CAC members was provided on three occasions, at the November 19, 2019, February 18, 2020, and May 19, 2020, CAC meetings.

Under section 7.8 of the APCA (35 P.S. § 4007.8), the Small Business Compliance Advisory Committee (SBCAC) is required to review and advise the Department on rulemakings which affect small business stationary sources. The Department provided informational presentations on this proposed rulemaking to SBCAC on January 22, 2020, and April 22, 2020. On July 22, 2020, the Department presented this proposed rulemaking to SBCAC for review and advice on the potential small business stationary source impact of this proposed rulemaking. During the presentation, the Department mentioned that it has estimated that ten small business stationary sources, as defined under section 3 of the APCA (35 P.S. § 4003), may need to comply with this proposed rulemaking. Of those ten sources, seven are estimated to be waste coal-fired power plants. The Department also mentioned that it has included in this proposed rulemaking a CO<sub>2</sub> allowance set-aside provision to assist all waste coal-fired power plants located in this Commonwealth with their compliance obligation. The SBCAC ultimately voted not to concur with the Department's recommendation to move this proposed rulemaking

forward to the Board, with four opposed and three in support. The Department will continue to seek advice from SBCAC on the small business stationary source impact of this proposed rulemaking and address member questions and concerns throughout the rulemaking process.

Additionally, the Department provided an informational presentation to the Environmental Justice Advisory Board on May 21, 2020, and had further engagement with Environmental Justice stakeholder groups such as the Chester Environmental Partnership and EJ Stakeholders Group. The Department also provided informational presentations on this proposed rulemaking to the Climate Change Advisory Committee on February 25, 2020, and the Oil and Gas Technical Advisory Board on May 20, 2020.

The Department, working with the Public Utility Commission, engaged with PJM Interconnection to promote the integration of this program in a manner that preserves orderly and competitive economic dispatch within PJM and minimizes emissions leakage. The Department has also met with various stakeholders to receive additional input on this proposed rulemaking on numerous occasions throughout the development process. In particular, the Department met with environmental groups, residents, businesses, legislators, owners and operators of affected sources, industry groups and environmental justice stakeholders during the development of this proposed rulemaking.

#### *E. Summary of Regulatory Requirements*

##### *General provisions*

##### *§ 145.301. Purpose*

This section proposes to establish the purpose of the CO<sub>2</sub> Budget Trading Program.

##### *§ 145.302. Definitions*

This section proposes to establish definitions for the following terms: "account number," "acid rain emissions limitation," "acid rain program," "adjustment for banked allowances," "administrator," "agent," "air pollution reduction account," "allocate or allocation," "allocation year," "allowance auction or auction," "ascending price, multiple-round auction," "attribute," "attribute credit," "automated data acquisition and handling system," "award," "beneficial interest," "bidder," "boiler," "CEMS—continuous emission monitoring system," "COATS—CO<sub>2</sub> allowance tracking system," "COATS account," "CO<sub>2</sub> allowance," "CO<sub>2</sub> allowance auction or auction," "CO<sub>2</sub> allowance deduction or deduct CO<sub>2</sub> allowances," "CO<sub>2</sub> allowances held or hold CO<sub>2</sub> allowances," "CO<sub>2</sub> allowance price," "COATS account," "CO<sub>2</sub> allowance transfer deadline," "CO<sub>2</sub> authorized account representative," "CO<sub>2</sub> authorized alternate account representative," "CO<sub>2</sub> budget emissions limitation," "CO<sub>2</sub> budget permit condition," "CO<sub>2</sub> budget source," "CO<sub>2</sub> Budget Trading Program," "CO<sub>2</sub> budget unit," "CO<sub>2</sub> CCR allowance or CO<sub>2</sub> cost containment reserve allowance," "CO<sub>2</sub> CCR trigger price or CO<sub>2</sub> cost containment reserve trigger price," "CO<sub>2</sub> ECR allowance or CO<sub>2</sub> emissions containment reserve allowance," "CO<sub>2</sub> ECR trigger price or CO<sub>2</sub> emissions containment reserve trigger price," "CO<sub>2</sub>e—CO<sub>2</sub> equivalent," "CO<sub>2</sub> offset allowance," "cogeneration set-aside account," "cogeneration unit," "combined cycle system," "combustion turbine," "commence commercial operation," "commence operation," "compliance account," "control period," "decay rate," "descending price, multiple-round auction," "discriminatory price, sealed-bid auction," "electronic submission agent," "eligible biomass," "excess emissions," "excess interim

emissions,” “general account,” “GWP—global warming potential,” “gross generation,” “interim control period,” “legacy emissions,” “life-of-the-unit contractual arrangement,” “maximum potential hourly heat input,” “minimum reserve price,” “monitoring system,” “nameplate capacity,” “notice of CO<sub>2</sub> allowance auction,” “operator,” “owner,” “participating state,” “Pennsylvania CO<sub>2</sub> budget trading program adjusted budget,” “Pennsylvania CO<sub>2</sub> budget trading program base budget,” “qualified participant,” “receive or receipt of,” “recording, record or recorded,” “reserve price,” “reviewer,” “source,” “strategic use set-aside account,” “ton or tonnage,” “undistributed CO<sub>2</sub> allowance,” “uniform-price, sealed-bid auction,” “unit,” “unit operating day,” “unsold CO<sub>2</sub> allowance,” “useful thermal energy,” “waste coal,” “waste coal-fired,” and “waste coal set-aside account.” These defined terms are used in the substantive provisions of Subchapter E.

§ 145.303. *Measurements, abbreviations and acronyms*

This section proposes to establish the measurements, abbreviations and acronyms used in Subchapter E.

§ 145.304. *Applicability*

This section proposes to establish that this proposed rulemaking would apply to the owner or operator of a CO<sub>2</sub> budget 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. A CO<sub>2</sub> budget source is any source that includes one or more CO<sub>2</sub> budget unit.

§ 145.305. *Limited exemption for CO<sub>2</sub> budget units with electrical output to the electric grid restricted by permit conditions*

This section proposes to establish a limited exemption and compliance requirements for a CO<sub>2</sub> budget source that has a permit issued by the Department containing a condition restricting the supply of the CO<sub>2</sub> budget unit's annual electrical output to the electric grid to no more than 10% of the annual gross generation of the unit, or restricting the supply less than or equal to 15% of its annual total useful energy to any entity other than the manufacturing facility to which the CO<sub>2</sub> budget source is interconnected.

§ 145.306. *Standard requirements*

This section proposes to establish the standard permit, monitoring, CO<sub>2</sub>, excess emissions and recordkeeping and reporting requirements. This section also proposes to establish liability for the CO<sub>2</sub> authorized account representative and the owner or operator of a CO<sub>2</sub> budget source or CO<sub>2</sub> budget unit.

§ 145.307. *Computation of time*

This section proposes to establish the computation of any time period scheduled under the CO<sub>2</sub> Budget Trading Program.

*CO<sub>2</sub> authorized account representative for a CO<sub>2</sub> budget source*

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

This section proposes to establish the authorization and responsibilities of the CO<sub>2</sub> authorized account representative.

§ 145.312. *CO<sub>2</sub> authorized alternate account representative*

This section proposes to establish the requirements for the designation of no more than one CO<sub>2</sub> authorized alternate account representative to act on behalf of the CO<sub>2</sub> authorized account representative.

§ 145.313. *Changing the CO<sub>2</sub> authorized account representative and the CO<sub>2</sub> authorized alternate account representative; changes in the owner or operator*

This section proposes to establish the process and requirements for changing the CO<sub>2</sub> authorized account representative or the CO<sub>2</sub> authorized alternate account representative. This section also proposes to establish the process and requirements for changes in the owner or operator.

§ 145.314. *Account certificate of representation*

This section proposes to establish the elements of a complete account certificate of representation for a CO<sub>2</sub> authorized account representative or a CO<sub>2</sub> authorized alternate account representative.

§ 145.315. *Objections concerning the CO<sub>2</sub> authorized account representative*

This section proposes to establish the procedure for objections concerning the CO<sub>2</sub> authorized account representative.

§ 145.316. *Delegation of authority to make electronic submissions and review information in COATS*

This section proposes to provide for a CO<sub>2</sub> authorized account representative or a CO<sub>2</sub> authorized alternate account representative to delegate their authority to make an electronic submission in COATS.

*Permits*

§ 145.321. *General requirements for a permit incorporating CO<sub>2</sub> Budget Trading Program requirements*

This section proposes to establish the requirement for each CO<sub>2</sub> budget source to have a permit issued under Chapter 127 that incorporates the CO<sub>2</sub> Budget Trading Program requirements.

§ 145.322. *Submission of an application for a new, renewed or modified permit incorporating CO<sub>2</sub> Budget Trading Program requirements*

This section proposes to establish the process and deadlines for the CO<sub>2</sub> authorized account representative to submit a complete permit application to the Department.

§ 145.323. *Contents of an application for a permit incorporating CO<sub>2</sub> Budget Trading Program requirements*

This section proposes to establish the required contents of a complete permit application.

*Compliance certification*

§ 145.331. *Compliance certification report*

This section proposes to establish the requirement for a CO<sub>2</sub> authorized account representative of a CO<sub>2</sub> budget source to submit to the Department a compliance certification report for each control period. The section proposes to include the required contents of the report and compliance certification.

§ 145.332. *Department action on compliance certifications*

This section proposes to provide for the Department or its agent's review of compliance certifications, the ability to conduct independent audits of submissions and to deduct or transfer CO<sub>2</sub> allowances based on the information in the compliance certification.

*CO<sub>2</sub> allowance allocations*

§ 145.341. *Pennsylvania CO<sub>2</sub> Budget Trading Program base budget*

This section establishes the Pennsylvania CO<sub>2</sub> Budget Trading Program declining base budget for the years



2022 through 2030 and each succeeding calendar year. For example, in 2022, the Pennsylvania CO<sub>2</sub> Budget Trading Program base budget is 78,000,000 tons and by 2030 and each succeeding calendar year, the Pennsylvania CO<sub>2</sub> Budget Trading Program base budget is 58,085,040 tons.

§ 145.342. *CO<sub>2</sub> allowance allocations*

Subsection (a) proposes to establish that the Department will allocate CO<sub>2</sub> allowances representing 100% of the tons for each allocation year from the Pennsylvania CO<sub>2</sub> Budget Trading Program base budget to the air pollution reduction account, less those allowances set aside each allocation year.

Subsection (b) proposes to establish the Department's set-aside accounts for waste coal, strategic use and cogeneration.

Subsection (c) proposes to establish the Pennsylvania CO<sub>2</sub> Budget Trading Program adjusted budget for the allocation year 2022 and each succeeding calendar year.

Subsection (d) proposes to establish the CCR allocation and the process by which the Department will allocate CO<sub>2</sub> CCR allowances, separate from and additional to the Pennsylvania CO<sub>2</sub> Budget Trading Program base budget to the air pollution reduction account.

Subsection (e) proposes to establish the emissions containment reserve (ECR) and the process by which the Department will convert and transfer any CO<sub>2</sub> allowances that have been withheld from any auction into the Pennsylvania ECR account.

Subsection (f) proposes to provide for the Department to determine whether to make an adjustment for banked allowances and the formula to be used.

Subsection (g) proposes to provide for the Department to establish the Pennsylvania CO<sub>2</sub> Budget Trading Program adjusted budget for an allocation year and the formula to be used.

Subsection (h) proposes to require the Department to publish notice in the *Pennsylvania Bulletin* of the CO<sub>2</sub> Budget Trading Program adjusted budget for the allocation year, if the Department determines to adjust the budget for banked allowances.

Subsection (i) proposes to establish the process for the waste coal set-aside allocation, including the establishment of a general account, allowance transfers, compliance allocation, an exception or exceedance of legacy emissions or 9,300,000 tons during a calendar year, and the set-aside termination. This proposed subsection applies to waste coal-fired units located in this Commonwealth that commenced operation on or before the effective date of this proposed rulemaking, that are subject to the CO<sub>2</sub> Budget Trading Program requirements.

Subsection (j) proposes to establish the process for the strategic use set-aside allocation, including the establishment of a general account, allowance transfers and allocation to eligible projects for the use in the elimination of air pollution. The strategic use set-aside allocation will consist of undistributed CO<sub>2</sub> allowances from the waste coal set-aside account.

Subsection (k) proposes to establish the process for the cogeneration set-aside allocation, including applicability, the establishment of a general account, the required compliance obligation adjustment application, the compliance obligation adjustment determination and the retirement and transfer of CO<sub>2</sub> allowances.

§ 145.343. *Distribution of CO<sub>2</sub> allowances in the air pollution reduction account*

This section proposes to describe how the Department will distribute CO<sub>2</sub> allowances held in the air pollution reduction account. With the exception of CO<sub>2</sub> allowances held in a set-aside account, the Department will make available all CO<sub>2</sub> allowances for purchase or auction each allocation year. The proceeds of the auction will be used in the elimination of air pollution in accordance with the APCA and Chapter 143 and for programmatic costs associated with the CO<sub>2</sub> Budget Trading Program.

*CO<sub>2</sub> allowance tracking system*

§ 145.351. *CO<sub>2</sub> Allowance Tracking System (COATS) accounts*

This section proposes to describe the nature and function of compliance and general accounts. Compliance accounts are only for CO<sub>2</sub> budget sources, while any person may have a general account.

§ 145.352. *Establishment of accounts*

This section proposes to provide for the establishment of a compliance account by the Department or its agent upon receipt of a complete account certificate of representation. This proposed section also provides for any person to apply to open a general account by submitting a complete application to the Department or its agent that includes the required contents listed in this proposed section. This proposed section establishes the requirements for the authorization of a CO<sub>2</sub> authorized account representative, changing a CO<sub>2</sub> authorized account representative or a CO<sub>2</sub> authorized alternate account representative, changes in persons with ownership interest, objections concerning a CO<sub>2</sub> authorized account representative, delegation by a CO<sub>2</sub> authorized account representative and a CO<sub>2</sub> authorized alternate account representative, and account identification.

§ 145.353. *COATS responsibilities of CO<sub>2</sub> authorized account representative and CO<sub>2</sub> authorized alternate account representative*

This section proposes to allow submissions to the Department or its agent pertaining to a COATS account to be only submitted by the CO<sub>2</sub> authorized account representative or CO<sub>2</sub> authorized alternate account representative for the account.

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

This section proposes to establish the deadlines for the Department or its agent to record and assign a serial number to the CO<sub>2</sub> allowances allocated for the air pollution reduction account, the waste coal set-aside account, the strategic use set-aside account and the cogeneration set-aside account.

§ 145.355. *Compliance*

This section proposes to establish the requirements for allowances available for compliance deduction, deductions for compliance, allowance identification, deductions for excess emissions, recordation of deductions and action by the Department on submissions.

§ 145.356. *Banking*

This section proposes to allow a CO<sub>2</sub> allowance that is held in a compliance account or a general account to be banked or in other words to remain in the account until the CO<sub>2</sub> allowance is deducted or transferred.

§ 145.357. *Account error*

This section proposes to allow the Department or its agent to correct and notify a CO<sub>2</sub> authorized account representative of an error in a COATS account.

§ 145.358. *Closing of general accounts*

This section proposes to allow the CO<sub>2</sub> authorized account representative of a general account to instruct the Department or its agent to close a general account and for a general account that shows no activity for 1 year or more and does not contain any CO<sub>2</sub> allowances to be closed. This proposed section also describes the notification procedure for the closure.

*CO<sub>2</sub> allowance transfers*

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

This section proposes to establish the requirements for a CO<sub>2</sub> authorized account representative to submit a CO<sub>2</sub> allowance transfer to the Department for recordation.

§ 145.362. *Recordation*

This section proposes to establish the requirements and process for the Department to record a CO<sub>2</sub> allowance transfer.

§ 145.363. *Notification*

This section proposes to establish the processes for notification of recordation and non-recordation of a CO<sub>2</sub> allowance transfer and allows for the resubmission of a CO<sub>2</sub> allowance transfer for recordation.

*Monitoring, reporting and recordkeeping requirements*

§ 145.371. *General monitoring requirements*

This section proposes to establish the monitoring requirements that an owner or operator or CO<sub>2</sub> authorized account representative of a CO<sub>2</sub> budget unit must comply with, including applicable sections of 40 CFR Part 75 (relating to continuous emission monitoring). This proposed section also includes the requirements for installation, certification and data accounting, compliance dates for recording, reporting and quality-assuring data from the monitoring system, reporting data and prohibitions.

§ 145.372. *Initial certification and recertification procedures*

This section proposes to establish the conditions for an exemption from the initial certification requirements, the applicability of recertification, the process for petitions, the certification and recertification requirements, the approval process for initial certification and recertification, the procedures for loss of certification, initial certification and recertification procedures for low mass emissions units and certification and recertification procedures for an alternative monitoring system.

§ 145.373. *Out-of-control periods*

This section proposes to establish the quality assurance requirements and the audit decertification procedure.

§ 145.374. *Notifications*

This section proposes to establish the requirement for a CO<sub>2</sub> authorized account representative for a CO<sub>2</sub> budget unit to submit written notice to the Department and the Administrator in accordance with 40 CFR 75.61 (relating to notifications).

§ 145.375. *Recordkeeping and reporting*

This section proposes to establish the recordkeeping and reporting requirements including monitoring plans, certification applications and quarterly reports.

§ 145.376. *Petitions*

This section proposes to establish the process and requirements for submitting a petition to the Department

or the EPA Administrator requesting approval to apply an alternative monitoring requirement.

§ 145.377. *CO<sub>2</sub> budget units that co-fire eligible biomass*

This section proposes to establish reporting and data calculation requirements for the CO<sub>2</sub> authorized account representative of a CO<sub>2</sub> budget unit that co-fires eligible biomass as a compliance mechanism under the CO<sub>2</sub> Budget Trading Program.

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

§ 145.381. *Purpose*

This section proposes to allow the Department or its agent to specify additional information in the auction notice for each auction, including the time and location of the auction, auction rules, registration deadlines and any additional information deemed necessary or useful.

§ 145.382. *General Requirements*

This section proposes to establish the required contents of an auction notice. This section also proposes to include tables with the CCR trigger price and the ECR trigger price for the years 2023 through 2030. This proposed section also establishes the process for the sale of CCR allowances, implementation of the reserve price and withholding ECR allowances form an auction.

*CO<sub>2</sub> emissions offset projects*

§ 145.391. *Purpose*

This section proposes to allow the Department to award CO<sub>2</sub> offset allowances to sponsors of CO<sub>2</sub> emissions offset projects that have reduced or avoided atmospheric loading of CO<sub>2</sub>, CO<sub>2</sub>e or sequestered carbon. CO<sub>2</sub> offset allowances must be real, additional, verifiable, enforceable and permanent within the framework of a standards-based approach.

§ 145.392. *Definitions*

This section proposes to establish definitions for the following terms: "AEPS—Alternative energy portfolio standards," "anaerobic digester," "anaerobic digestion," "anaerobic storage," "biogas," "conflict of interest," "forest offset project," "forest offset project data report," "forest offset protocol," "independent verifier," "intentional reversal," "market penetration rate," "offset project," "project commencement," "project sponsor," "regional-type anaerobic digester," "reporting period," "reversal," "system benefit fund," "total solids," "unintentional reversal," "verification" and "volatile solids." These proposed defined terms are used in the substantive provisions of §§ 145.391—145.397 (relating to CO<sub>2</sub> emissions offset projects).

§ 145.393. *General requirements*

This section proposes to establish the requirements for an offset project to qualify for the award of CO<sub>2</sub> offset allowances, including the three eligible offset project types, offset project location requirements, the project sponsor, general additionality requirements, maximum allocation periods for offset projects, offset project audits, as well as ineligibility of an offset project due to noncompliance.

§ 145.394. *Application process*

This section proposes to establish the requirement for a project sponsor to establish a general account and to submit a consistency application, including the deadlines and required contents of the consistency application and the process for the Department's action on consistency applications.

§ 145.395. *CO<sub>2</sub> emissions offset project standards*

This section proposes to establish the eligibility, offset project description, calculation and monitoring and verification requirements for the categories of offset projects, landfill methane capture and destruction, sequestration of carbon due to reforestation, improved forest management or avoided conversion and avoided methane emissions from agricultural manure management operations.

§ 145.396. *Accreditation of independent verifiers*

This section proposes to establish the standards for accreditation of independent verifiers, the required contents of an application for accreditation, the process for Department action on applications for accreditation, reciprocity of independent verifiers across participating states and the required conduct of an accredited verifier.

§ 145.397. *Award and Recordation of CO<sub>2</sub> offset allowances*

This section proposes the process for awarding and recording CO<sub>2</sub> offset allowances. This section also proposes to establish the deadlines for submittal of monitoring and verification reports, the required contents of monitoring and verification reports, the prohibition against filing monitoring and verification reports in more than one participating state and the process for Department action on monitoring and verification reports.

*CO<sub>2</sub> allowance auctions*

§ 145.401. *Auction of CO<sub>2</sub> allowances*

This section proposes to establish that the Department will participate in a multistate CO<sub>2</sub> allowance auction in coordination with other participating states. However, the Department may determine to conduct a Pennsylvania-run auction if the conditions for participating in a multistate auction are no longer met. The Department may delegate implementation and administrative support for any CO<sub>2</sub> allowance auction and retains its authority to enforce compliance with the CO<sub>2</sub> Budget Trading Program and control over the proceeds.

§ 145.402. *Auction format*

This section proposes to establish the format of a CO<sub>2</sub> allowance auction, the lot of CO<sub>2</sub> allowances and the reserve price.

§ 145.403. *Auction timing and CO<sub>2</sub> allowance submission schedule*

This section proposes to establish the timing of a CO<sub>2</sub> allowance auction, the availability of CO<sub>2</sub> allowances held in the air pollution reduction account and the requirement for an auction to include a CCR reserve and trigger price.

§ 145.404. *Auction notice*

This section proposes to establish the requirement for notice to be provided of each CO<sub>2</sub> allowance auction and the required contents of the notice.

§ 145.405. *Auction participant requirements*

This section proposes to establish the eligibility requirements to participate in a CO<sub>2</sub> allowance auction as a bidder.

§ 145.406. *Auction participant qualification*

This section proposes to establish the requirement for the submittal of a qualification application, the deadline for submittal, the required contents of a qualification

application, the process for Department review of a qualification application and changes in qualification status.

§ 145.407. *Submission of financial security*

This section proposes to establish the requirement for a qualified applicant to provide financial security to the Department to participate in a CO<sub>2</sub> allowance auction as a bidder and the process for requesting return of the financial security.

§ 145.408. *Bid submittal requirements*

This section proposes to establish the requirements and limitations of bid submittals.

§ 145.409. *Approval of auction results*

This section proposes to establish the requirement for an independent monitor to observe the conduct and outcome of each auction and issue a report to the Department. If the Department approves the outcome of an auction based on the contents of the report, the Department will transfer and record the CO<sub>2</sub> allowances to successful bidders and make available the auction clearing price and the number of CO<sub>2</sub> allowances sold in the auction.

*F. Benefits, Costs and Compliance*

The CO<sub>2</sub> emission reductions accomplished through implementation of this proposed rulemaking would benefit the health and welfare of the approximately 12.8 million residents and the numerous animals, crops, vegetation and natural areas of this Commonwealth by reducing the amount of climate change causing pollution resulting from the regulated sources.

*Reduction of CO<sub>2</sub> emissions*

This proposed rulemaking includes a CO<sub>2</sub> emission budget which declines by approximately 20 million short tons from 2022 to 2030 within this Commonwealth. However, this Commonwealth will experience CO<sub>2</sub> emission reductions of around 188 million tons as a direct result of participation in RGGI. This results in CO<sub>2</sub> reductions in this Commonwealth and a net benefit to the entire PJM region. The Department's modeling shows that this Commonwealth makes these significant emission reductions while maintaining historic electric generation levels, enhancing this Commonwealth's status as a leading net energy exporter and creating economic opportunities.

The CO<sub>2</sub> emission reductions resulting from this proposed rulemaking are substantial and are the catalyst needed to meet the climate goals for this Commonwealth, as outlined in Executive Order 2019-01, to reduce net GHG emissions Statewide by 26% by 2025 from 2005 levels and by 80% by 2050 from 2005 levels. A predicted reduction of 13.6 million metric tons of CO<sub>2</sub> by 2025 due to this Commonwealth's potential participation in RGGI provides significant assurance that along with prudent investments of auction proceeds and other GHG abatement activities, this Commonwealth will remain on track to reach the 2025 net GHG reduction goal.

Historically, the RGGI program has experienced some emissions leakage. Emissions leakage is the shifting of emissions from states with carbon pricing to states without carbon pricing. The Department's modeling indicates that there may be some future emissions leakage in terms of additional fossil fuel emissions outside of this Commonwealth's borders. Despite the leakage, this Commonwealth's participation in RGGI would result in a net emissions reduction of 86.9 million tons of CO<sub>2</sub> across



PJM for the period between 2020 and 2030. Additionally, the Department has been an active participant in PJM's Carbon Pricing Senior Task Force which is conducting additional modeling in an effort to better understand and control leakage across the entire PJM region.

The participating states together, including this Commonwealth, will achieve regional CO<sub>2</sub> emissions reductions of 30% by 2030. According to data from the World Bank, by 2022 based on Gross Domestic Product (GDP), the participating states would comprise the third largest economy in the world. These CO<sub>2</sub> emission reductions are even more significant when viewed from this collective impact. Reductions in CO<sub>2</sub> emissions will help decrease the adverse impacts of climate change on human health, the environment and the economy. Specifically, CO<sub>2</sub> emission reductions may decrease costs from extreme weather events and climate-related ailments that also result in increased health care costs.

#### *Health benefits of this proposed rulemaking*

According to the NCA4, climate-driven changes in weather, human activity and natural emissions are all expected to impact future air quality across the United States. Many emission sources of GHGs also emit air pollutants that harm human health. Controlling these common emission sources would both mitigate climate change and have immediate benefits for air quality and human health. The energy sector, which includes energy production, conversion, and use, accounts for 84% of GHG emissions as well as 80% of emissions of NO<sub>x</sub> and 96% of SO<sub>2</sub>. Specifically, mitigating GHGs can lower emissions of SO<sub>2</sub>, NO<sub>x</sub>, PM, ozone and PM precursors, and other hazardous pollutants, reducing the risks to human health from air pollution.

While this proposed rulemaking requires CO<sub>2</sub> emission reductions, co-pollutants will also be reduced, because multiple pollutants are emitted from fossil fuel-fired EGUs. While the benefits of the cumulative CO<sub>2</sub> emission reductions will be tremendous, the Department also estimates that this proposed rulemaking will lead to a reduction of co-pollutants as well. This proposed rulemaking would provide public health benefits due to the expected reductions in emissions of CO<sub>2</sub> and the ancillary emission reductions or co-benefits of SO<sub>2</sub> and NO<sub>x</sub> reductions. The Department's modeling projects cumulative emission reductions of 112,000 tons of NO<sub>x</sub> and around 67,000 tons of SO<sub>2</sub> over the decade.

The Department used the EPA's Regional Incidence-per-Ton methodology which calculates total avoided incidences of major health issues, and calculation of avoided lost work and school days due to reduced emissions. Through 2030, it is estimated that between 283 and 641 premature deaths will be avoided in this Commonwealth due to emission reductions resulting directly from this proposed rulemaking. Children and adults alike will suffer less from respiratory illnesses, 30,000 less incidences of upper and lower respiratory symptoms which leads to reduced emergency department visits and avoided hospital admissions. Healthier children will be able to play more, as incidences of minor restricted-activity days decline on the order of almost 500,000 days between now and 2030. Adults would be healthier as well which results in over 83,000 avoided lost workdays due to health impacts. The public health benefits to this Commonwealth of these avoided SO<sub>2</sub> and NO<sub>x</sub> emissions range between \$2.79 billion to \$6.3 billion by 2030, averaging between \$232 million to \$525 million per year.

A 2017 independent study by Abt Associates, a global research firm focused on health and environmental policy,

on the "Analysis of the Public Health Impacts of the Regional Greenhouse Gas Initiative, 2009—2014" showed that participating states gained significant health benefits in the first 6 years of RGGI implementation alone. From 2009—2014, the participating states avoided around 24% of CO<sub>2</sub> emissions that would have otherwise been emitted during that period, resulting in around \$5 billion in avoided health related costs. See Abt Associates, "Analysis of the Public Health Impacts of the Regional Greenhouse Gas Initiative, 2009—2014," January 2017, <https://www.abtassociates.com/sites/default/files/files/Projects/executive%20summary%20RGGI.pdf>. Since this proposed rulemaking would lead to a 31% reduction of projected CO<sub>2</sub> emissions, or avoided emissions, over the next decade, this Commonwealth is likely to see similar gains in health benefits.

A recent study led by researchers from the Columbia Center for Children's Environmental Health at Columbia University Mailman School of Public Health (Columbia study), published on July 29, 2020, on the "Co-Benefits to Children's Health of the U.S. Regional Greenhouse Gas Initiative" indicates that the health benefits from RGGI are even more significant than estimated in 2017 by Abt Associates. The Columbia study concluded that the co-pollutant reductions resulting from RGGI have provided considerable child health benefits to participating and neighboring states. In particular, between 2009—2014, RGGI resulted in an estimated 537 avoided cases of childhood asthma, 112 avoided preterm births, 98 avoided cases of autism spectrum disorder and 56 avoided cases of term low birthweight. Those child health benefits also have significant economic value, estimated at \$199.6—\$358.2 million between 2009 and 2014 alone. However, the researchers note that the actual health benefits are even greater than estimated because the analysis does not capture the future health benefits related to reductions in childhood PM<sub>2.5</sub> exposure and mitigating climate change, such as fewer heat-related illnesses or cases of vector-borne disease to which children are especially vulnerable. See Frederica Perera, David Cooley, Alique Berberian, David Mills and Patrick Kinney, "Co-Benefits to Children's Health of the U.S. Regional Greenhouse Gas Initiative," *Environmental Health Perspectives*, Vol. 128, No. 7, July 2020, <https://ehp.niehs.nih.gov/doi/10.1289/EHP6706>.

#### *Benefits of continued waste coal pile remediation*

While this Commonwealth's participation in RGGI will have tangible health, environmental and economic benefits, the inclusion of the waste coal set-aside has the additional benefit of avoiding unintended impacts to this generation sector, so that the environmental benefits of continuing to remediate this Commonwealth's legacy waste coal piles may continue. For context, since 1988 a total of 160.7 million tons of waste coal has been removed and burned to generate electricity, with an additional 200 million tons of coal ash beneficially used at mine sites. Of this Commonwealth's over 13,000 acres of waste coal piles cataloged by the Department, 3,700 acres have been reclaimed with roughly 9,000 acres remaining. Additionally, of the piles that remain, approximately 40 of them have ignited, and continually burn which significantly impacts local air quality.

#### *Benefits of cogeneration and CHP systems*

As discussed previously, this proposed rulemaking provides a set-aside and limited exemption for cogeneration or CHP which will benefit existing systems while encouraging new installations in this Commonwealth. CHP systems use energy efficiently by simultaneously produc-

ing electricity and useful thermal energy from the same fuel source. CHP captures the wasted heat energy that is typically lost through power generation, using it to provide cost-effective heating and cooling to factories, businesses, universities and hospitals. CHP systems are able to use less fuel compared to other fossil fuel-fired EGUs to produce a given energy output. Less fuel being burned results in fewer air pollutant emissions, including CO<sub>2</sub> and other GHGs. In addition to reducing emissions, CHP benefits the economy and businesses by improving manufacturing competitiveness through increased energy efficiency and providing a way for businesses to reduce energy costs while enhancing energy reliability.

#### *Benefits of RGGI participation*

As previously mentioned, cap and trade programs have an established track record as economically efficient, market-driven mechanisms for reducing pollution in a variety of contexts. Other countries and states have found that cap and trade programs are effective methods to achieve significant GHG emission reductions. RGGI is one of the most successful cap and trade programs and it is well-established with an active carbon trading market for the northeastern United States. This successful market-based program has significantly reduced and continues to reduce emissions. The participating states have collectively reduced power sector CO<sub>2</sub> pollution by over 45% since 2009, while experiencing per capita GDP growth and reduced energy costs. The program design of RGGI would enable the Board to regulate CO<sub>2</sub> emissions from the power sector in a way that is economically efficient thereby driving long-term investments in cleaner sources of energy.

Part of what makes RGGI economically efficient is that it is a regional cap and invest program, which allows EGUs to achieve least-cost compliance by buying and selling allowances in a multistate auction or in regional secondary markets. RGGI CO<sub>2</sub> allowances are fungible across the participating states, meaning that though this Commonwealth would have an established allowance budget for each year, this Commonwealth's allowances are available to meet the compliance obligations in any other RGGI state and vice versa at the option of the regulated sources. Therefore, CO<sub>2</sub> emissions from this Commonwealth's power sector are not limited to strictly the amount of this Commonwealth's CO<sub>2</sub> allowances. This cooperation allows EGUs more flexibility in terms of compliance and allows the market to continue to signal entrance and exit of generation. Though each state has its own annual allocation, compliance occurs at the regional level rather than on a state-by-state basis. In this respect, the market assists in achieving least cost compliance for all participating states.

Another benefit of participating in multistate auctions run by RGGI, Inc. is that RGGI, Inc. has retained the services of an independent market monitor to monitor the auction, CO<sub>2</sub> allowance holdings, and CO<sub>2</sub> allowance transactions, among other activities. The market monitor provides independent expert monitoring of the competitive performance and efficiency of the RGGI allowance market. This includes identifying attempts to exercise market power, collude or otherwise manipulate prices in the auction or the secondary market, or both, making recommendations regarding proposed market rule changes to improve the efficiency of the market for RGGI CO<sub>2</sub> allowances, and assessing whether the auctions are administered in accordance with the noticed auction rules and procedures. The market monitor will monitor bidder behavior in each auction and report to the participating

states any activities that may have a material impact on the efficiency and performance of the auction. The participating states, through RGGI, Inc., release a Market Monitor Report shortly after each CO<sub>2</sub> allowance auction. The Market Monitor Report includes aggregate information about the auction including the dispersion of projected demand, the dispersion of bids and a summary of bid prices, showing the minimum, maximum, average and clearing price and the CO<sub>2</sub> allowances awarded.

RGGI has helped the participating states create jobs, save money for consumers, and improve public health, while reducing power sector emissions and transitioning to a cleaner electric grid. In an independent and nonpartisan evaluation of the first three control periods in RGGI, the Analysis Group, one of the largest economic consulting firms globally, found that the participating states experienced economic benefits in all three control periods, while reducing CO<sub>2</sub> emissions. The participating states added between \$1.3 billion and \$1.6 billion in net economic value during each of the three control periods. The participating states also showed growth in economic output, increased jobs and reduced long-run wholesale electricity costs. See Analysis Group, "The Economic Impacts of the Regional Greenhouse Gas Initiative on Northeast and Mid-Atlantic States," <https://www.analysisgroup.com/Insights/cases/the-economic-impacts-of-the-regional-greenhouse-gas-initiative-on-northeast-and-mid-atlantic-states/>.

A recent report from the Acadia Center, a nonprofit organization committed to advancing the clean energy future, entitled "The Regional Greenhouse Gas Initiative: Ten Years in Review," shows that CO<sub>2</sub> emissions from power plants in the participating states have decreased 47%, which is 90% faster than in the rest of country. The participating states were able to achieve that significant reduction while the GDP grew by 47%, outpacing the rest of the country by 31%.

RGGI has also driven substantial reductions in harmful co-pollutants, making the region's air cleaner and its people healthier. Additionally, proceeds from RGGI auctions generated nearly \$3.3 billion in state investments from 2009 to 2019. See Acadia Center, "The Regional Greenhouse Gas Initiative 10 Years in Review," 2019, [https://acadiacenter.org/wp-content/uploads/2019/09/Acadia-Center\\_RGGI\\_10-Years-in-Review\\_2019-09-17.pdf](https://acadiacenter.org/wp-content/uploads/2019/09/Acadia-Center_RGGI_10-Years-in-Review_2019-09-17.pdf).

For comparison, according to the Department's 2019 GHG Inventory Report from 2005 to 2016, this Commonwealth reduced its net emissions by 33.5% while the participating states reduced CO<sub>2</sub> pollution from covered sources by over 45% over the same period. Additionally, this reduction was achieved while the region's per-capita GDP has continued to grow, highlighting the synergies between environmental protection and economic development.

Additionally, this proposed rulemaking may create economic opportunities for clean energy businesses. By establishing a cost for emitting CO<sub>2</sub>, and pricing this externality into the energy market, the CO<sub>2</sub> Budget Trading Program will provide a market incentive for developing and deploying technologies that improve the fuel efficiency of electric generation, generate electricity from non-carbon emitting resources, reduce CO<sub>2</sub> emissions from combustion sources and encourage carbon capture and sequestration. The energy efficiency sector is the largest component of all energy jobs in this Commonwealth and the renewable energy sector contains some of the fastest growing jobs in the country.

*Investment of auction proceeds benefits consumers and the economy*

The proceeds generated from this proposed rulemaking would be invested into programs that would reduce air pollution and create positive economic impacts in this Commonwealth. The Department plans to develop a draft plan for public comment outlining reinvestment options separate from this proposed rulemaking. However, the Department conducted modeling to estimate the economic impacts of this proposed rulemaking. The Department analyzed the net economic benefits of the program investments using the Regional Economic Model, Inc. model. The extensive economic modeling will help the Department determine the best ways to invest the auction proceeds in this Commonwealth to maximize emission reductions and economic benefits. The modeling anticipates that in the first year of participation in RGGI, approximately \$300 million in auction proceeds will be generated for the use in the elimination of air pollution in this Commonwealth. The auction proceeds would be spent on programs related to the regulatory goal, and the Department modeled a scenario in which the proceeds are invested in energy efficiency, renewable energy and GHG abatement.

The proceeds will aid this Commonwealth in the transition toward a clean energy economy. In 2015, the EPA noted that the energy market was moving toward cleaner sources of energy and states needed to make plans for and invest in the next generation of power production, particularly considering that current assets and infrastructure were aging. By strategically investing the proceeds, this Commonwealth can help ensure that, as new investments are being made, they are integrated with the need to address GHG pollution from the electric generation sector. See 80 FR 64661, 64678 (October 23, 2015). These energy transitions are occurring both in this Commonwealth and Nationally.

Nationally, the last 10 years have seen coal's position steadily erode due to a combination of low electricity demand, mounting concern over climate, and increased competition from natural gas and renewables. The same is true for coal generation in this Commonwealth. Since 2005, electricity generation in this Commonwealth has shifted from higher carbon-emitting electricity generation sources, such as coal, to lower and zero emissions generation sources, such as natural gas, and renewable energy. Between now and 2030, coal generation is expected to decline dramatically. In 2010, coal generation represented 47% of this Commonwealth's generation portfolio and is expected to decline to roughly 1% of this Commonwealth's generation portfolio in 2030. This shift away from coal-fired generation occurs irrespective of this Commonwealth's participation in RGGI. Anticipating the need for transition, for these communities and employees, auction proceeds can be used to mitigate these impacts and assist communities and families through the energy transition. This could include repowering of the existing coal-fired power plants to natural gas, investments in worker training or other community-based support programs.

The Department would invest a portion of the proceeds in energy efficiency initiatives because energy efficiency is a low-cost resource for achieving CO<sub>2</sub> emission reductions while reducing peak demand and ultimately reducing electricity costs. Lower energy costs create numerous benefits across the economy, allowing families to invest in other priorities and businesses to expand. Energy efficiency savings can be achieved cost-effectively by upgrading appliances and lighting, weatherizing and insulating

buildings, upgrading HVAC and improving industrial processes. Additionally, all consumers benefit from energy efficiency programs, not just direct program participants because focused investment in energy efficiency can lower peak electricity demand and can decrease overall electricity costs which results in savings for all energy consumers. Additionally, energy efficiency projects are labor-intensive which create local jobs and boost local economy. For instance, projects involving home retrofits directly spur employment gains in the housing and construction industries.

Investing a portion of the auction proceeds into energy efficiency initiatives is also crucial to addressing the impacts of climate change on consumers. According to the NCA4, rising temperatures are projected to reduce the efficiency of power generation while increasing energy demands, resulting in higher electricity costs. Energy efficiency will help lessen those impacts by putting downward pressure on both demand and electricity costs.

Historically, the participating states have invested a significant portion of their auction proceeds in energy efficiency programs. According to RGGI's 2017 Investment Report, over the lifetime of the installed measures, the investments made in energy efficiency in 2017 alone are projected to save participants over \$879 million on energy bills, providing benefits to more than 291,000 participating households and 2,600 participating businesses. The investments are also projected to further avoid the release of 6.6 million short tons of CO<sub>2</sub> pollution.

The Department would also invest a portion of the proceeds in clean and renewable electricity generation, such as energy derived from clean or zero emissions sources including geothermal, hydropower, solar and wind. Clean and renewable energy systems reduce reliance on fossil fuels and provide climate resilience benefits, including reduced reliance on centralized power. They also offer the opportunity to save money on electricity costs by installing onsite renewable energy and also reduce power lost through transmission and distribution. Investing in clean and renewable projects will help this Commonwealth meet its climate goals, drive in-State investments and job creation, and lessen the pressure on the CO<sub>2</sub> allowance budget by generating more electricity without additional emissions.

The participating states invested 14% of their 2017 auction proceeds in clean and renewable energy projects. Over the lifetime of the projects installed in 2017, these investments are projected to offset \$329.6 million in energy expenses for nearly 500 households and businesses. The investments are also projected to avoid the release of 1.2 million short tons of CO<sub>2</sub> emissions.

The Department would also invest a portion of the proceeds in GHG abatement initiatives. GHG abatement includes a broad category of projects encompassing other ways of reducing GHGs, apart from energy efficiency and clean and renewable energy. Examples of potential programs in this Commonwealth include abandoned oil and gas well plugging, electric vehicle infrastructure, carbon capture, utilization and storage, combined heat and power, energy storage, repowering projects and vocational trainings, among others.

For reference, in 2017, an estimated 14% of RGGI investments were made in GHG abatement programs and projects. For the duration of the project lifetime, those investments are expected to avoid over 431,000 short tons of CO<sub>2</sub> emissions across the region.

The Department modeled an investment scenario with 31% of annual proceeds for energy efficiency, 32% for



renewable energy and 31% for GHG abatement, and 6% for any programmatic costs related to administration and oversight of the CO<sub>2</sub> Budget Trading Program (5% for the Department and 1% for RGGI, Inc). These programmatic costs are in line with the historical amounts reserved by the participating states.

The results of the modeling show that this proposed rulemaking will not only combat climate change and improve air quality, but also provide positive economic value to this Commonwealth. The modeling estimates that from 2022 to 2030, this proposed rulemaking would lead to an increase in Gross State Product of \$1.9 billion and a net increase of 27,752 jobs in this Commonwealth. The Department's modeling also indicates that investments from this proposed rulemaking would spur an addition of 9.4 gigawatts of renewable energy and result in a load reduction of 29 terawatt hours of electricity from energy efficiency projects.

#### *Benefits of cap and trade v. traditional command and control*

In 2003, the EPA issued "A Guide to Designing and Operating a Cap and Trade Program for Pollution Control," in which the EPA detailed the benefits of cap and trade programs and the advantages they provide over more traditional approaches to environmental regulation. By establishing an emissions budget, cap and trade programs can provide a greater level of environmental certainty than other environmental policy options. The regulated sources, across the region, must procure allowances to cover emissions or risk being penalized for lack of compliance. Traditional command and control regulations, on the other hand, tend to rely on variable emission rates and usually only regulated existing or new sources. However, under cap and trade programs, new and existing sources must comply with the emissions budget. A cap and trade program may also encourage sources to achieve emission reductions in anticipation of future compliance, resulting in the earlier achievement of environmental and human health benefits. In fact, the Department's modeling shows that this is occurring as this Commonwealth prepares to participate in RGGI in 2022.

The EPA also noted in the guide that banking of allowances, which this proposed rulemaking allows, provides an additional incentive to reduce emissions earlier than required. Banking provides flexibility by allowing sources to save unused allowances for use in a later compliance period when the emissions budget is lower and the costs to reduce emissions may be higher. With command and control, the regulating authority specifies sector-wide technology and performance standards that each of the affected sources must meet, whereas cap and trade provides sources with the flexibility to choose the technologies that minimize their costs while achieving their emission target. Cap and trade programs also provide more accountability than a command and control program. Under this proposed rulemaking and other cap and trade programs, sources must account for every ton of emissions they emit by acquiring allowances. On the other hand, command and control programs tend to rely on periodic inspections and assumptions that control technology is functioning properly to show compliance. See EPA, "Tools of the Trade: A Guide to Designing and Operating a Cap and Trade Program for Pollution Control," June 2003, EPA430-B-03-002, <https://www.epa.gov/sites/production/files/2016-03/documents/tools.pdf>.

#### *Compliance costs*

This proposed rulemaking applies to owners or operators of fossil fuel-fired EGUs, within this Commonwealth,

with a nameplate capacity equal to or greater than 25 MWe. This proposed rulemaking is designed to effectuate least cost CO<sub>2</sub> emission reductions for the years 2022 through 2030 within this Commonwealth. In addition to purchasing CO<sub>2</sub> allowances and completing offset projects to generate CO<sub>2</sub> offset allowances, CO<sub>2</sub> budget units may reduce their compliance obligations by reducing CO<sub>2</sub> emissions through other alternatives such as heat rate improvements, fuel switching and co-firing of biofuels.

To comply with this proposed rulemaking, each CO<sub>2</sub> budget unit within this Commonwealth will need to acquire CO<sub>2</sub> allowances equal to its CO<sub>2</sub> emissions. If CO<sub>2</sub> allowances are purchased through the multistate auctions, the owner or operator of a CO<sub>2</sub> budget unit will pay the auction allowance price, currently around \$5 per ton, for each ton of CO<sub>2</sub> the unit emits. As mentioned previously, reserved CO<sub>2</sub> CCR allowances can be released into the auction if allowance prices exceed predefined price levels, meaning emission reduction costs are higher than projected. The total cost of purchasing allowances will therefore vary per unit based on how much CO<sub>2</sub> the unit emits and the allowance price. The owner or operator may also purchase CO<sub>2</sub> allowances on the secondary market where they could potentially purchase CO<sub>2</sub> allowances at a price lower than the RGGI allowance price. CO<sub>2</sub> allowances also have no expiration date and can be acquired and banked to defray future compliance costs.

Since the Department will allocate CO<sub>2</sub> allowances to waste coal-fired units each year up to 9,300,000 allowances sector-wide, waste coal-fired units will incur minimal compliance costs. Owners or operators of waste coal-fired units will only need to purchase CO<sub>2</sub> allowances if the set-aside amount is exceeded. However, waste coal-fired units still have to comply with the other components of the regulation, including incorporating the CO<sub>2</sub> budget trading programs into their permits.

The requirements this proposed rulemaking would establish will require the owner or operator of an applicable source to submit a complete application for a new, renewed or modified permit and pay the associated fee. The application must be submitted by the later of 6 months after the effective date of the final-form rulemaking or 12 months before the date on which the CO<sub>2</sub> budget source, or a new unit at the source, commences operation.

The Department estimates that the costs related to monitoring, recordkeeping and reporting will be minimal as this proposed rulemaking utilizes current methods and, in most instances, will require no additional emissions reporting. For instance, the continuous emission monitoring required under this proposed rulemaking is already in existence at the regulated source and the necessary emissions data is currently reported to the EPA. There may be minimal programmatic costs related to the submittal of compliance certification reports and auction, account, and offset project related forms.

Compliance costs will vary by CO<sub>2</sub> budget unit as the amount of CO<sub>2</sub> emitted is the primary driver of compliance costs. Overall CO<sub>2</sub> emissions are impacted by operational decisions such as run time, and by emissions intensity which varies by fuel type, and abatement technology employed. Additionally, certain sources may be eligible for set-aside allowances at no cost.

In 2022, this Commonwealth's CO<sub>2</sub> emissions from CO<sub>2</sub> budget sources are estimated to be 57 million short tons. Given the 3-year compliance schedule, all 57 million CO<sub>2</sub>

allowances will not need to be purchased in the first year. The total amount of allowances available will decline as the amount of CO<sub>2</sub> emissions in this Commonwealth decline.

As CO<sub>2</sub> budget sources would need one allowance for each ton of CO<sub>2</sub> emitted, the owners or operators would need to acquire 57 million CO<sub>2</sub> allowances at the estimated 2022 allowance price of \$5.58 (2017\$/Ton). If these CO<sub>2</sub> allowances were all purchased at quarterly multi-state auctions in 2022, the total purchase cost would be \$318 million. The CO<sub>2</sub> budget sources would then most likely incorporate this compliance cost into their offer price for electricity. The price of electricity is then passed onto electric consumers. However, that does not mean that \$318 million will be passed onto this Commonwealth's electric consumers.

#### *Electric consumer impact*

Historically, this Commonwealth has exported 1/3 of its electricity generation, and that will continue into the future. In fact, if this Commonwealth participates in RGGI, electricity exports will increase even more than business-as-usual. Therefore, it can be expected that at least 1/3 of the cost of compliance would be borne by out-of-state electric consumers. In 2022, this Commonwealth's net electricity exports are estimated at 68,000 gigawatt hours (GWh), representing 31% of this Commonwealth's 2022 electricity generation of 217,476 GWh. As a result, without factoring in the strategic investment of auction proceeds, the remaining 69% of the cost of compliance or \$219 million would be borne by this Commonwealth. This percentage is also dependent on the CO<sub>2</sub> emissions intensity of the exported generation. However, this does not mean that electric consumers in this Commonwealth will therefore pay \$219 million. There are several other factors involved in determining the impact on consumer electric bills.

According to the EIA's Annual Energy Outlook from January 2020, the major components of the United States average price of electricity in 2019 were 58% generation, 29% distribution and 13% transmission costs. This proposed rulemaking would only impact the generation portion of a consumer electric bill, which is a little more than 1/2 of the bill. The Department's modeling estimates that over the next decade wholesale energy prices will stay in between a range of an increase of 3% and a decrease of 3% as a result of this proposed rulemaking. That amounts to a roughly 1.5% increase or decrease in the average retail electricity rate, which is less than the swing in prices traditionally seen as a result of seasonal fluctuations in the energy market.

The average residential electric consumer in this Commonwealth spends from \$97.04 to \$136.60 per month depending on whether they heat their homes with electricity or another fuel source. Although electricity rates vary in this Commonwealth by Electric Distribution Company service territories, these bill amounts represent the average electricity rates across this Commonwealth.

If this proposed rulemaking is implemented and this Commonwealth begins participating in RGGI in 2022, residential electric consumer bills will increase by an estimated 1.5% in the short-term. This amounts to an additional \$1.46 to \$2.05 per month depending on the home heating source. However, the Department's modeling shows that this minor increase is temporary. As a result of the revenue reinvestments from the auction proceeds, by 2030, energy prices will fall below business-

-as-usual prices resulting in future consumer electricity cost savings. This means electric consumers will see greater electric bill savings in the future than if this proposed rulemaking were not implemented.

#### *Compliance assistance plan*

The Department will continue to educate and assist the public and the regulated community in understanding the proposed requirements and how to comply with them throughout the rulemaking process. The Department will continue to work with the Department's provider of Small Business Stationary Source Technical and Environmental Compliance Assistance. These services are currently provided by the Environmental Management Assistance Program (EMAP) of the Pennsylvania Small Business Development Centers. The Department has partnered with EMAP to fulfill the Department's obligation to provide confidential technical and compliance assistance to small businesses as required by the APCA, section 507 of the CAA (42 U.S.C.A. § 7661f) and authorized by the Small Business and Household Pollution Prevention Program Act (35 P.S. §§ 6029.201—6029.209).

In addition to providing one-on-one consulting assistance and onsite assessments, EMAP also operates a toll-free phone line to field questions from small businesses in this Commonwealth, as well as businesses wishing to start up in, or relocate to, this Commonwealth. EMAP operates and maintains a resource-rich environmental assistance web site and distributes an electronic newsletter to educate and inform small businesses about a variety of environmental compliance issues.

#### *Paperwork requirements*

The recordkeeping and reporting requirements for owners and operators of applicable sources under this proposed rulemaking are minimal because the records required align with the records already required to be kept for emission inventory purposes and for other Federal and State requirements.

#### *G. Pollution Prevention*

The Pollution Prevention Act of 1990 (42 U.S.C.A. §§ 13101—13109) established a National policy that promotes pollution prevention as the preferred means for achieving State environmental protection goals. The Department encourages pollution prevention, which is the reduction or elimination of pollution at its source, through the substitution of environmentally friendly materials, more efficient use of raw materials and the incorporation of energy efficiency strategies. Pollution prevention practices can provide greater environmental protection with greater efficiency because they can result in significant cost savings to facilities that permanently achieve or move beyond compliance.

This proposed rulemaking would help ensure that the citizens of this Commonwealth would benefit from reduced emissions of CO<sub>2</sub> from regulated sources. Reduced levels of CO<sub>2</sub> would promote healthful air quality and ensure the continued protection of the environment and public health and welfare.

#### *H. Sunset Review*

This Board is not establishing a sunset date for this proposed rulemaking, since it is needed for the Depart-

ment to carry out its statutory authority. The Department will closely monitor this proposed rulemaking after promulgation as a final-form rulemaking in the *Pennsylvania Bulletin* for its effectiveness and recommend updates to the Board as necessary.

**I. Regulatory Review**

Under section 5(a) of the Regulatory Review Act (71 P.S. § 745.5(a)), on October 21, 2020, the Department submitted a copy of this proposed rulemaking to the Legislative Reference Bureau for publication in the *Pennsylvania Bulletin* and to the Independent Regulatory Review Commission (IRRC) and the Chairpersons of the House and Senate Environmental Resources and Energy Committees. In addition to submitting this proposed rulemaking, the Department has provided IRRC and the House and Senate Committees with a copy of a detailed Regulatory Analysis Form prepared by the Department. A copy of this material is available to the public upon request.

Under section 5(g) of the Regulatory Review Act, IRRC may convey any comments, recommendations or objections to the proposed rulemaking within 30 days of the close of the public comment period. The comments, recommendations or objections must specify the regulatory review criteria in section 5.2 of the Regulatory Review Act (71 P.S. § 745.5b) which have not been met. The Regulatory Review Act specifies detailed procedures for review, prior to final publication of the rulemaking by the Department, the General Assembly and the Governor.

**J. Public Comments**

Interested persons are invited to submit to the Board written comments, suggestions, support, or objections regarding this proposed rulemaking. Comments, suggestions, support or objections must be received by the Board by January 14, 2021.

Comments may be submitted to the Board by accessing the Board's online comment system at <http://www.ahs.dep.pa.gov/eComment>.

Comments may also be submitted by e-mail to [RegComments@pa.gov](mailto:RegComments@pa.gov). A subject heading of this proposed rulemaking and a return name and address must be included in each transmission.

If an acknowledgement of comments submitted online or by e-mail is not received by the sender within 2 working days, the comments should be retransmitted to the Board to ensure receipt. Comments submitted by facsimile will not be accepted.

Comments may also be submitted to the Board by mail or express mail. Written comments should be mailed to the Environmental Quality Board, P.O. Box 8477, Harrisburg, PA 17105-8477. Express mail should be sent to the Environmental Quality Board, Rachel Carson State Office Building, 16th Floor, 400 Market Street, Harrisburg, PA 17101-2301.

**K. Public Hearings**

In accordance with Governor Tom Wolf's emergency disaster declaration and based on advice from the Department of Health regarding the mitigation of the spread of COVID-19, the Board will hold ten virtual public hearings for the purpose of accepting comments on this proposed rulemaking. The hearings will be held as follows:

- December 8, 2020, at 9 a.m.—12 p.m.
- December 8, 2020, at 1 p.m.—4 p.m.
- December 9, 2020, at 1 p.m.—4 p.m.
- December 9, 2020, at 6 p.m.—9 p.m.

- December 10, 2020, at 1 p.m.—4 p.m.
- December 10, 2020, at 6 p.m.—9 p.m.
- December 11, 2020, at 9 a.m.—12 p.m.
- December 11, 2020, at 1 p.m.—4 p.m.
- December 14, 2020, at 1 p.m.—4 p.m.
- December 14, 2020, at 6 p.m.—9 p.m.

Persons wishing to present testimony at a hearing must contact Jennifer Swan for the Department and the Board, at (717) 783-8727 or [RA-EPEQB@pa.gov](mailto:RA-EPEQB@pa.gov) at least 24 hours in advance of the hearing to reserve a time to present testimony. Language interpretation services are available upon request. Persons in need of language interpretation services must contact Jennifer Swan by 5 p.m. on December 1, 2020.

Registration to present testimony at a hearing is on a first come, first served basis. To help provide interested persons with an opportunity to present testimony, organizations are limited to designating one witness to present testimony on their behalf at one of the hearings. Verbal testimony is limited to 5 minutes for each witness. Video demonstrations and screen sharing by witnesses will not be permitted.

Witnesses are requested to submit a written copy of their verbal testimony by e-mail to [RegComments@pa.gov](mailto:RegComments@pa.gov) after providing testimony at the hearing.

Information on how to access the hearings will be available on the Board's webpage found through the Public Participation tab on the Department's web site at [www.dep.pa.gov](http://www.dep.pa.gov) (select "Public Participation," then "Environmental Quality Board"). Prior to each hearing, individuals are encouraged to visit the Board's webpage for the most current information for accessing each hearing.

Any members of the public wishing to observe the public hearing without providing testimony are also directed to access the Board's webpage. The public hearings may be accessed by means of telephone or Internet connection. Those who have not registered with Jennifer Swan in advance as described previously will remain muted for the duration of the public hearing.

Persons in need of accommodations as provided for in the Americans with Disabilities Act of 1990 should contact the Board at (717) 783-8727 or through the Pennsylvania AT&T Relay Service at (800) 654-5984 (TDD) or (800) 654-5988 (voice users) to discuss how the Board may accommodate their needs.

PATRICK McDONNELL,  
*Chairperson*

**Fiscal Note:** 7-559. No fiscal impact; (8) recommends adoption.

**Annex A**

**TITLE 25. ENVIRONMENTAL PROTECTION  
PART I. DEPARTMENT OF ENVIRONMENTAL PROTECTION**

**Subpart C. PROTECTION OF NATURAL RESOURCES**

**ARTICLE III. AIR RESOURCES**

**CHAPTER 145. INTERSTATE POLLUTION TRANSPORT REDUCTION**

**Subchapter E. CO<sub>2</sub> BUDGET TRADING PROGRAM**

*(Editor's Note:* Sections 145.301—145.409 are proposed to be added and are printed in regular type to enhance readability.)



## GENERAL PROVISIONS

Sec.	
145.301.	Purpose.
145.302.	Definitions.
145.303.	Measurements, abbreviations and acronyms.
145.304.	Applicability.
145.305.	Limited exemption for CO <sub>2</sub> budget units with electrical output to the electric grid restricted by permit conditions.
145.306.	Standard requirements.
145.307.	Computation of time.

## § 145.301. Purpose.

This subchapter establishes the Pennsylvania component of the CO<sub>2</sub> Budget Trading Program, which is designed to reduce anthropogenic emissions of CO<sub>2</sub>, a greenhouse gas, from CO<sub>2</sub> budget sources in a manner that is protective of public health, welfare and the environment.

## § 145.302. Definitions.

The following words and terms, when used in this subchapter, have the following meanings, unless the context clearly indicates otherwise:

*Account number*—The identification number given by the Department or its agent to each CO<sub>2</sub> Allowance Tracking System (COATS) account.

*Acid rain emissions limitation*—A limitation on emissions of sulfur dioxide or NO<sub>x</sub> under the Acid Rain Program under Title IV of the Clean Air Act (42 U.S.C.A. §§ 7651—7651o).

*Acid Rain Program*—A multi-state sulfur dioxide and NO<sub>x</sub> air pollution control and emission reduction program established by the Administrator under Title IV of the Clean Air Act and 40 CFR Parts 72—78.

*Adjustment for banked allowances*—An adjustment that may be applied to the Pennsylvania CO<sub>2</sub> Budget Trading Program base budget for an allocation year to address CO<sub>2</sub> allowances held in general and compliance accounts, including compliance accounts established under the CO<sub>2</sub> Budget Trading Program, but not including accounts opened by participating states, that are in addition to the aggregate quantity of emissions from all CO<sub>2</sub> budget sources in all of the participating states at the end of the control period immediately preceding the allocation year and as reflected in the CO<sub>2</sub> Allowance Tracking System on March 15 of the year following the control period.

*Administrator*—The Administrator of the EPA or the Administrator's authorized representative.

*Agent*—A qualified entity that may assist the Department with technical and administrative support functions in accordance with the requirements of this subchapter.

*Air pollution reduction account*—The general account established by the Department from which CO<sub>2</sub> allowances will be sold or distributed to provide funds for use in the elimination of air pollution in accordance with the act and Chapter 143 (relating to disbursements from the clean air fund) and the administration of the Pennsylvania component of the CO<sub>2</sub> Budget Trading Program.

*Allocate or allocation*—The determination by the Department of the number of CO<sub>2</sub> allowances to be recorded in the compliance account of a CO<sub>2</sub> budget source, the waste coal set-aside account, the strategic use set-aside account, the cogeneration set-aside account, the air pollution reduction account, or the general account of the sponsor of an approved CO<sub>2</sub> emissions offset project.

*Allocation year*—A calendar year for which the Department allocates or awards CO<sub>2</sub> allowances under §§ 145.341 and 145.391—145.397 (relating to Pennsylvania

CO<sub>2</sub> trading program base budget; and CO<sub>2</sub> emissions offset projects). The allocation year of each CO<sub>2</sub> allowance is reflected in the unique identification number given to the allowance under § 145.354(c) (relating to recordation of CO<sub>2</sub> allowance allocations).

*Allowance auction or auction*—A bidding process in which the Department or its agent offers CO<sub>2</sub> allowances for sale.

*Ascending price, multiple-round auction*—A bidding process that starts with an opening price that increases each round by predetermined increments. In each round, a bidder offers the quantity of CO<sub>2</sub> allowances the bidder is willing to purchase at the posted price. Rounds continue as long as demand exceeds the quantity of CO<sub>2</sub> allowances offered for sale. At the completion of the final round, CO<sub>2</sub> allowances will be allocated by one of three methods:

(i) At the final price to remaining bidders and unsold CO<sub>2</sub> allowances to be withheld for a future auction.

(ii) At the penultimate price, first to final round bidders and then to bidders in the penultimate round in chronological order of bid during the penultimate round for all remaining CO<sub>2</sub> allowances.

(iii) According to an alternative mechanism designed to effectuate the objectives of this subchapter.

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

*Attribute credit*—A unit that represents the attributes related to one megawatt-hour of electricity generation.

*Automated Data Acquisition and Handling System*—The component of the continuous emissions monitoring system, or other emissions monitoring system approved for use under § 145.371 (relating to general monitoring requirements), 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 § 145.371.

*Award*—The determination by the Department of the number of CO<sub>2</sub> offset allowances to be recorded in the general account of a project sponsor under § 145.397 (relating to award and recordation of CO<sub>2</sub> offset allowances). Award is a type of allocation.

*Beneficial interest*—A profit, benefit or advantage resulting from the ownership of a CO<sub>2</sub> allowance.

*Bidder*—A qualified participant who has met the requirements of §§ 145.405 and 145.406 (relating to auction participant requirements; and auction participant qualification) and has been determined by the Department to be eligible to participate in a specified CO<sub>2</sub> allowance auction under § 145.406.

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

*CEMS—continuous emissions monitoring system*—The equipment required under § 145.371 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 con-

tent, and oxygen or carbon dioxide concentration, as applicable, in a manner consistent with 40 CFR Part 75 (relating to continuous emission monitoring) and § 145.371. The following systems are types of continuous emissions monitoring systems required under § 145.371.

(i) 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.

(ii) A nitrogen oxides emissions rate (or NO<sub>x</sub>-diluent) monitoring system, consisting of a NO<sub>x</sub> pollutant concentration monitor, a diluent gas (CO<sub>2</sub> or O<sub>2</sub>) monitor, and an automated data acquisition and handling system and providing a permanent, continuous record of NO<sub>x</sub> concentration, in parts per million, diluent gas concentration, in percent CO<sub>2</sub> or O<sub>2</sub>; and NO<sub>x</sub> emissions rate, in pounds per million British thermal units (lb/MMBtu).

(iii) A moisture monitoring system, as defined in 40 CFR 75.11(b)(2) (relating to specific provisions for monitoring SO<sub>2</sub> emissions) and providing a permanent, continuous record of the stack gas moisture content, in percent H<sub>2</sub>O.

(iv) A carbon dioxide monitoring system, consisting of a CO<sub>2</sub> pollutant concentration monitor (or an oxygen monitor plus suitable mathematical equations from which the CO<sub>2</sub> concentration is derived) and an automated data acquisition and handling system and providing a permanent, continuous record of CO<sub>2</sub> emissions, in percent CO<sub>2</sub>.

(v) An oxygen monitoring system, consisting of an O<sub>2</sub> concentration monitor and an automated data acquisition and handling system and providing a permanent, continuous record of O<sub>2</sub>, in percent O<sub>2</sub>.

*COATS—CO<sub>2</sub> allowance tracking system—*

(i) A system by which the Department or its agent records allocations, deductions and transfers of CO<sub>2</sub> allowances under the CO<sub>2</sub> Budget Trading Program.

(ii) The system may also be used to track all of the following:

- (A) CO<sub>2</sub> emissions offset projects.
- (B) CO<sub>2</sub> allowance prices.
- (C) Emissions from affected sources.

*COATS account—*An account established by the Department or its agent for purposes of recording the allocation, holding, transferring or deducting of CO<sub>2</sub> allowances. The tracking system may also be used to track CO<sub>2</sub> offset allowances, CO<sub>2</sub> allowance prices and emissions from affected sources.

*CO<sub>2</sub> allowance—*A limited authorization by the Department or a participating state under the CO<sub>2</sub> Budget Trading Program to emit up to 1 ton of CO<sub>2</sub>, subject to all applicable limitations contained in this subchapter.

*CO<sub>2</sub> allowance auction or auction—*The sale of CO<sub>2</sub> allowances through competitive bidding as administered in accordance with §§ 145.401—145.409 (relating to CO<sub>2</sub> allowance auctions).

*CO<sub>2</sub> allowance deduction or deduct CO<sub>2</sub> allowances—*The permanent withdrawal of CO<sub>2</sub> allowances by the Department or its agent from a COATS compliance account to account for one of the following:

(i) The number of tons of CO<sub>2</sub> emitted from a CO<sub>2</sub> budget source for a control period or an interim control period, determined in accordance with § 145.371.

(ii) The forfeit or retirement of CO<sub>2</sub> allowances as provided by this subchapter.

*CO<sub>2</sub> allowances held or hold CO<sub>2</sub> allowances—*The CO<sub>2</sub> allowances recorded by the Department or its agent or submitted to the Department or its agent for recordation, in accordance with §§ 145.351 and 145.361 (relating to CO<sub>2</sub> Allowance Tracking System (COATS) accounts; and submission of CO<sub>2</sub> allowance transfers), in a COATS account.

*CO<sub>2</sub> allowance price—*The price for CO<sub>2</sub> allowances in the CO<sub>2</sub> Budget Trading Program for a particular time period as determined by the Department, 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<sub>2</sub> allowance transfer deadline—*Midnight of the March 1 occurring after the end of the relevant control period and each relevant interim control period or, if that March 1 is not a business day, midnight of the first business day thereafter and is the deadline by which CO<sub>2</sub> allowances must be submitted for recordation in a CO<sub>2</sub> budget source's compliance account in order for the source to meet the CO<sub>2</sub> requirements of § 145.306(c) (relating to standard requirements) for the control period and each interim control period immediately preceding the deadline.

*CO<sub>2</sub> authorized account representative—*

(i) For a CO<sub>2</sub> budget source and each CO<sub>2</sub> budget unit at the source, the person who is authorized by the owner or operator of the source and all CO<sub>2</sub> budget units at the source, in accordance with § 145.311 (relating to authorization and responsibilities of the CO<sub>2</sub> authorized account representative), to represent and legally bind each owner and operator in matters pertaining to the CO<sub>2</sub> Budget Trading Program.

(ii) For a general account, the person who is authorized under §§ 145.351—145.358 to transfer or otherwise dispose of CO<sub>2</sub> allowances held in the general account.

*CO<sub>2</sub> authorized alternate account representative—*

(i) For a CO<sub>2</sub> budget source and each CO<sub>2</sub> budget unit at the source, the alternate person who is authorized by the owner or operator of the source and all CO<sub>2</sub> budget units at the source, in accordance with § 145.311, to represent and legally bind each owner and operator in matters pertaining to the CO<sub>2</sub> Budget Trading Program.

(ii) For a general account, the alternate person who is authorized under §§ 145.351—145.358 to transfer or otherwise dispose of CO<sub>2</sub> allowances held in the general account.

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

*CO<sub>2</sub> budget permit condition—*The portion of the permit issued by the Department under Chapter 127 (relating to construction, modification, reactivation and operation of sources) to the owner or operator of a CO<sub>2</sub> budget source which specifies the CO<sub>2</sub> Budget Trading Program requirements applicable to the CO<sub>2</sub> budget source.

*CO<sub>2</sub> budget source—*A facility that includes one or more CO<sub>2</sub> budget units.

*CO<sub>2</sub> Budget Trading Program—*A multi-state CO<sub>2</sub> air pollution control and emissions reduction program established under this subchapter and corresponding regula-

tions in other participating states as a means of reducing emissions of CO<sub>2</sub> from CO<sub>2</sub> budget sources.

*CO<sub>2</sub> budget unit*—A unit that is subject to the CO<sub>2</sub> Budget Trading Program requirements under § 145.304 (relating to applicability).

*CO<sub>2</sub> CCR allowance or CO<sub>2</sub> cost containment reserve allowance*—A CO<sub>2</sub> allowance that is offered for sale at an auction by the Department for the purpose of containing the cost of CO<sub>2</sub> allowances.

*CO<sub>2</sub> CCR trigger price or CO<sub>2</sub> cost containment reserve trigger price*—The minimum price at which CO<sub>2</sub> CCR allowances are offered for sale by the Department or its agent at an auction.

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

*CO<sub>2</sub> ECR trigger price or CO<sub>2</sub> emissions containment reserve trigger price*—The price below which CO<sub>2</sub> allowances will be withheld from sale by the Department or its agent at an auction.

*CO<sub>2</sub>e—CO<sub>2</sub> equivalent*—The quantity of a given greenhouse gas multiplied by its global warming potential.

*CO<sub>2</sub> offset allowance*—A CO<sub>2</sub> allowance that is awarded to the sponsor of a CO<sub>2</sub> emissions offset project under § 145.397 and is subject to the relevant compliance deduction limitations of § 145.355(a)(3) (relating to compliance).

*Cogeneration set-aside account*—A general account established by the Department for the allocation of CO<sub>2</sub> allowances for retirement in an amount equal to the adjustment of the compliance obligation of a cogeneration unit under § 145.342(k) (relating to CO<sub>2</sub> allowance allocations).

*Cogeneration unit*—An electric-generating unit that simultaneously produces both electric and useful thermal energy from the same primary energy facility.

*Combined cycle system*—A system comprised of one or more combustion turbine, heat recovery steam generator and steam turbine configured to improve overall efficiency of electricity generation or steam production.

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

*Commence commercial operation*—With regard to a unit that serves a generator, to have begun to produce steam, gas or other heated medium used to generate electricity for sale or use, including test generation.

(i) For a unit that is a CO<sub>2</sub> budget unit under § 145.304 on the date the unit commences commercial operation, the date shall remain the unit's date of commencement of commercial operation even if the unit is subsequently modified, reconstructed or repowered.

(ii) For a unit that is not a CO<sub>2</sub> budget unit under § 145.304 on the date the unit commences commercial operation, the date the unit becomes a CO<sub>2</sub> budget unit under § 145.304 is the unit's date of commencement of commercial operation.

*Commence operation*—To have begun any mechanical, chemical or electronic process, including, with regard to a unit, start-up of the unit's combustion chamber.

(i) For a unit that is a CO<sub>2</sub> budget unit under § 145.304 on the date of commencement of operation, the date shall remain the unit's date of commencement of operation even if the unit is subsequently modified, reconstructed or repowered.

(ii) For a unit that is not a CO<sub>2</sub> budget unit under § 145.304 on the date of commencement of operation, the date the unit becomes a CO<sub>2</sub> budget unit under § 145.304 shall be the unit's date of commencement of operation.

*Compliance account*—A COATS account, established by the Department or its agent for a CO<sub>2</sub> budget source under § 145.351, that holds CO<sub>2</sub> allowances available for use by the owner or operator of the source for a control period and each interim control period for the purpose of meeting the CO<sub>2</sub> requirements of § 145.306(c).

*Control period*—A 3-calendar-year period. The fifth control period, which is the first control period in which Pennsylvania will participate in the CO<sub>2</sub> Budget Trading Program, is from January 1, 2021, through December 31, 2023, inclusive. Each subsequent sequential 3-calendar-year period is a separate control period.

*Decay rate*—The amount of a gas removed from the atmosphere over a number of years.

*Descending price, multiple-round auction*—An 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<sub>2</sub> allowances at the current provisional price and wait for the price to fall. Rounds continue so long as the number of CO<sub>2</sub> allowances locked-in is less than the quantity of CO<sub>2</sub> allowances offered for sale.

*Discriminatory price, sealed-bid auction*—A single-round, sealed-bid auction in which a bidder may submit multiple bids for CO<sub>2</sub> allowances at different prices. The price paid by winning bidders with the highest bids for CO<sub>2</sub> allowances is their own bid price.

*Electronic submission agent*—The person who is delegated authority by a CO<sub>2</sub> authorized account representative or a CO<sub>2</sub> authorized alternate account representative to make an electronic submission to the Department or its agent under this subchapter.

*Eligible biomass*—

(i) Sustainably harvested woody and herbaceous fuel sources that are available on a renewable or recurring basis, including dedicated energy crops and trees, agricultural food and feed crop residues, aquatic plants, unadulterated wood and wood residues, animal wastes, other clean organic wastes not mixed with other solid wastes, biogas and other neat liquid biofuels derived from these fuel sources.

(ii) This term does not include old growth timber.

*Excess emissions*—The amount of CO<sub>2</sub> emissions, in tons, emitted by a CO<sub>2</sub> budget source during a control period that exceeds the CO<sub>2</sub> budget emissions limitation for the source.

*Excess interim emissions*—The amount of CO<sub>2</sub> emissions, in tons, emitted by a CO<sub>2</sub> budget source during an interim control period multiplied by 0.50 that exceeds the CO<sub>2</sub> budget emissions limitation for the source.

*General account*—A COATS account established by the Department under § 145.351 that is not a compliance account.



*GWP—Global Warming Potential—*

(i) A measure of the radiative efficiency or heat-absorbing ability of a particular gas relative to that of CO<sub>2</sub> after taking into account the decay rate of each gas relative to that of CO<sub>2</sub>.

(ii) GWPs used in this subchapter are consistent with the values used in the Intergovernmental Panel on Climate Change, Fifth Assessment Report.

*Gross generation*—The electrical output in MWe at the terminals of the generator.

*Interim control period*—A calendar-year period, during each of the first and second calendar years of each control period. The first interim control period for the fifth control period starts on January 1, 2021, and ends on December 31, 2021, inclusive. The second interim control period for the fifth control period starts on January 1, 2022, and ends on December 31, 2022, inclusive. Each successive 3-year control period will have 2 interim control periods, comprised of each of the first 2 calendar years of that control period.

*Legacy emissions*—The amount of CO<sub>2</sub> emissions in tons equal to the highest year of CO<sub>2</sub> emissions from a waste coal-fired unit during the 5-year period beginning January 1, 2015, through December 31, 2019, as determined by the Department.

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

- (i) The life of the unit.
- (ii) A cumulative term of no less than 30 years, including a contract that permits an election for early termination.
- (iii) A period equal to or greater than 25 years or 70% 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.

*Maximum potential hourly heat input*—An hourly heat input used for reporting purposes when a unit lacks certified monitors to report heat input. If the unit intends to use 40 CFR Part 75, Appendix D (relating to optional SO<sub>2</sub> emissions data protocol for gas-fired and oil-fired units) to report heat input, this value shall be calculated, in accordance with 40 CFR Part 75, using the maximum fuel flow rate and the maximum gross calorific value. If the unit intends to use a flow monitor and a diluent gas monitor, this value shall be reported, in accordance with 40 CFR Part 75, using the maximum potential flow rate and either the maximum CO<sub>2</sub> concentration in percent CO<sub>2</sub> or the minimum O<sub>2</sub> concentration in percent O<sub>2</sub>.

*Minimum reserve price*—The price for calendar year 2020 is \$2.32. Each calendar year thereafter, the minimum reserve price shall be 1.025 multiplied by the minimum reserve price from the previous calendar year, rounded to the nearest whole cent.

*Monitoring system*—A monitoring system that meets the requirements of this subchapter, including a CEMS, an excepted monitoring system or an alternative monitoring system.

*Nameplate capacity*—The maximum electrical output in MWe that a generator can sustain over a specified period of time when not restricted by seasonal or other de-

ratings as measured in accordance with the United States Department of Energy standards.

*Notice of CO<sub>2</sub> allowance auction*—The notification for a specific auction or auctions issued under § 145.404 (relating to auction notice).

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

*Owner*—Any of the following persons:

(i) A holder of any portion of the legal or equitable title in a CO<sub>2</sub> budget unit or a CO<sub>2</sub> budget source.

(ii) A holder of a leasehold interest in a CO<sub>2</sub> budget unit or a CO<sub>2</sub> budget source, other than a passive lessor, or a person who has an equitable interest through such lessor, whose rental payments are not based, either directly or indirectly, upon the revenues or income from the CO<sub>2</sub> budget unit.

(iii) A purchaser of power from a CO<sub>2</sub> budget unit under a life-of-the-unit contractual arrangement in which the purchaser controls the dispatch of the unit.

(iv) With respect to any general account, a person who has an ownership interest with respect to the CO<sub>2</sub> allowances held in the general account and who is subject to the binding agreement for the CO<sub>2</sub> authorized account representative to represent that person's ownership interest with respect to CO<sub>2</sub> allowances.

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

*Pennsylvania CO<sub>2</sub> Budget Trading Program adjusted budget*—The annual amount of CO<sub>2</sub> tons available in Pennsylvania for allocation in a given allocation year, in accordance with the CO<sub>2</sub> Budget Trading Program, determined in accordance with § 145.342. CO<sub>2</sub> offset allowances allocated to project sponsors and CO<sub>2</sub> CCR allowances offered for sale at an auction are separate from and additional to CO<sub>2</sub> allowances allocated from the Pennsylvania CO<sub>2</sub> Budget Trading Program adjusted budget.

*Pennsylvania CO<sub>2</sub> Budget Trading Program base budget*—The annual amount of CO<sub>2</sub> tons available in Pennsylvania for allocation in a given allocation year, in accordance with the CO<sub>2</sub> Budget Trading Program and as specified in § 145.341. CO<sub>2</sub> offset allowances allocated to project sponsors and CO<sub>2</sub> CCR allowances offered for sale at an auction are separate from and additional to CO<sub>2</sub> allowances allocated from the Pennsylvania CO<sub>2</sub> Budget Trading Program base budget.

*Qualified participant*—A person who has submitted a qualification application under § 145.406(a) and that the Department determines to be qualified to participate in CO<sub>2</sub> allowance auctions under § 145.406(e).

*Receive or receipt of*—When referring to the Department or its agent, to come into possession of a document, information or correspondence, whether sent in writing or by authorized electronic transmission, as indicated in an official correspondence log, or by a notation made on the document, information or correspondence, by the Department or its agent in the regular course of business.

*Recordation, record or recorded*—With regard to CO<sub>2</sub> allowances, the movement of CO<sub>2</sub> allowances by the Department or its agent from one COATS account to another, for purposes of allocation, transfer or deduction.

*Reserve price*—The minimum acceptable price for each CO<sub>2</sub> allowance offered for sale in a specific auction. The reserve price at an auction is either the minimum reserve price or the CCR trigger price, as specified in § 145.382 (relating to general requirements).

*Reviewer*—The individual who is delegated authority by a CO<sub>2</sub> authorized account representative or a CO<sub>2</sub> authorized alternate account representative to review information in COATS under this subchapter.

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

*Strategic use set-aside account*—A general account established by the Department for the distribution of CO<sub>2</sub> allowances to encourage and foster promotion of energy efficiency measures, promotion of renewable or noncarbon-emitting energy technologies, stimulation or reward of investment in the development of innovative carbon emissions abatement technologies with significant carbon reduction potential.

*Ton or tonnage*—A short ton that is 2,000 pounds or 0.9072 metric ton.

*Undistributed CO<sub>2</sub> allowance*—A CO<sub>2</sub> allowance originally allocated to a set-aside account as under § 145.342 that were not distributed.

*Uniform-price, sealed-bid auction*—A single-round, sealed-bidding process in which a bidder may submit multiple bids at different prices. The price paid by all successful bidders will be uniform and equal to the highest rejected bid price.

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

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

*Unsold CO<sub>2</sub> allowance*—A CO<sub>2</sub> allowance that has been made available for sale in an auction conducted by the Department or its agent, but not sold.

*Useful thermal energy*—

(i) Energy in the form of direct heat, steam, hot water or other thermal form applied for a useful purpose in an industrial, institutional or commercial process.

(ii) This term does not include steam made available for electricity production.

*Waste coal*—The coal disposed or abandoned prior to July 31, 1982, or disposed of thereafter in a permitted coal refuse disposal site regardless of when disposed of and used to generate electricity, as defined under section 2 of the Alternative Energy Portfolio Standards Act (73 P.S. § 1648.2).

*Waste coal-fired*—The combustion of waste coal or, if in combination with any other fuel, waste coal comprises 75% or greater of the annual heat input on a Btu basis. Facilities combusting waste coal shall use at a minimum a circulating fluidized bed boiler and be outfitted with a limestone injection system and a fabric filter particulate removal system.

*Waste coal set-aside account*—A general account established by the Department for the allocation of CO<sub>2</sub> allowances in an amount sufficient to provide CO<sub>2</sub> allowances equal to the legacy emissions from all waste coal-fired units under § 145.342(i).

### § 145.303. Measurements, abbreviations and acronyms.

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

*CH<sub>4</sub>*—methane.

*hr*—hour.

*lb*—pounds.

*MMBtu*—Million Btu.

*MW*—megawatt.

*MWe*—megawatt electrical.

### § 145.304. Applicability.

(a) *CO<sub>2</sub> budget unit*. Beginning \_\_\_\_\_ (*Editor's Note*: The blank refers to the effective date of this rulemaking, when published as a final-form rulemaking.), this subchapter applies to an owner or operator of a 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.

(b) *CO<sub>2</sub> budget source*. Any source that includes one or more CO<sub>2</sub> budget units shall be a CO<sub>2</sub> budget source, subject to the requirements of this subchapter.

### § 145.305. Limited exemption for CO<sub>2</sub> budget units with electrical output to the electric grid restricted by permit conditions.

(a) *Exemption*. Notwithstanding § 145.304 (relating to applicability), a CO<sub>2</sub> budget source that has a permit issued by the Department containing a condition restricting the supply of the CO<sub>2</sub> budget unit's annual electrical output to the electric grid to no more than 10% of the annual gross generation of the unit, or restricting the supply less than or equal to 15% of its annual total useful energy to any entity other than the manufacturing facility to which the CO<sub>2</sub> budget source is interconnected and which complies with subsection (c), shall be exempt from the requirements of this subchapter, except for the provisions of this section, §§ 145.302, 145.303, and 145.307 (relating to definitions; measurements, abbreviations and acronyms; and computation of time) and, if applicable because of the allocation of CO<sub>2</sub> allowances during the pre-exemption time period, §§ 145.341, 145.351 and 145.361 (relating to Pennsylvania CO<sub>2</sub> Budget Trading Program base budget; CO<sub>2</sub> Allowance Tracking System (COATS) accounts; and submission of CO<sub>2</sub> allowance transfers).

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

(c) *Compliance*.

(1) The owner or operator of a CO<sub>2</sub> budget unit exempt under subsection (a) shall comply with the restriction on the percentage of annual gross generation that may be supplied to the electric grid described in subsection (a).

(2) The owner or operator of a CO<sub>2</sub> budget unit exempt under subsection (a) shall report to the Department the amount of annual gross generation and the amount of annual gross generation supplied to the electric grid during the calendar year by the following March 1.

(3) For a period of 10 years from the date the records are created, the owner or operator of a CO<sub>2</sub> budget unit exempt under subsection (a) shall retain, at the source

that includes the unit, records demonstrating that the conditions of the permit under subsection (a) were met. The Department may, in writing, extend the 10-year period for keeping records, at any time prior to the end of the period. The owner or operator bears 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.

(4) The owner or operator and, to the extent applicable, the CO<sub>2</sub> authorized account representative of a CO<sub>2</sub> budget unit exempt under subsection (a) shall comply with the requirements of this subchapter concerning all time periods for which the exemption is not in effect, even if the requirements arise, or must be complied with, after the exemption takes effect.

(5) A CO<sub>2</sub> budget unit exempt under subsection (a) will lose its exemption, on the earlier of the following dates:

(i) The restriction on the percentage of annual gross generation that may be supplied to the electric grid described in subsection (a) is removed from the unit's permit or otherwise becomes no longer applicable in any year that commences on or after January 1, 2022.

(ii) The unit fails to comply or the owner or operator fails to meet their burden of proving that the unit is complying with the restriction on the percentage of annual gross generation that may be supplied to the electric grid described in subsection (a) during any year that commences on or after January 1, 2022.

(6) A unit that loses its exemption in accordance with paragraph (c)(5) shall be subject to the requirements of this subchapter. For the purposes of this subchapter, the unit shall be treated as commencing operation on the date the unit loses its exemption.

#### § 145.306. Standard requirements.

##### (a) Permit requirements.

(1) The owner or operator of each CO<sub>2</sub> budget source shall have a CO<sub>2</sub> budget permit condition in their permit required under Chapter 127 (relating to construction, modification, reactivation and operation of sources) and shall submit to the Department the following:

(i) A complete application for a new, renewed or modified permit under § 145.323 (relating to contents of an application for a permit incorporating CO<sub>2</sub> Budget Trading Program requirements) in accordance with the deadlines specified in § 145.322 (relating to submission of an application for a new, renewed or modified permit incorporating CO<sub>2</sub> Budget Trading Program requirements).

(ii) Any supplemental information that the Department determines is necessary to review the permit application and issue or deny a permit, permit renewal or permit modification that includes CO<sub>2</sub> Budget Trading Program requirements.

(2) The owner or operator of each CO<sub>2</sub> budget source required to have a permit under Chapter 127 shall ensure that the permit incorporates the requirements of the CO<sub>2</sub> Budget Trading Program and shall operate the CO<sub>2</sub> budget source and each CO<sub>2</sub> budget unit at the source in compliance with the permit.

##### (b) Monitoring requirements.

(1) The owner or operator and, to the extent applicable, the CO<sub>2</sub> authorized account representative of each CO<sub>2</sub> budget source and each CO<sub>2</sub> budget unit at the source, shall comply with the monitoring requirements of §§ 145.371—145.377 (relating to monitoring, reporting and recordkeeping requirements).

(2) The Department will use the emissions measurements recorded and reported in accordance with §§ 145.371—145.377 to determine the unit's compliance with the CO<sub>2</sub> requirements under subsection (c).

(c) *CO<sub>2</sub> requirements.* A CO<sub>2</sub> budget unit shall be subject to the CO<sub>2</sub> requirements starting on January 1, 2022, or the date on which the unit commences operation, whichever is later.

(1) For the purpose of determining compliance with subsection (c)(2), total tons for a control period or an interim control period shall be calculated as the sum of all recorded hourly emissions or the tonnage equivalent of the recorded hourly emissions rates, in accordance with §§ 145.371—145.377. The Department will round total CO<sub>2</sub> emissions to the nearest whole ton, so that any fraction of a ton equal to or greater than 0.50 ton is deemed to equal 1 ton and any fraction of a ton less than 0.50 ton is deemed to equal zero tons.

(2) The owner or operator of each CO<sub>2</sub> budget source and each CO<sub>2</sub> budget unit at the source shall, as of the CO<sub>2</sub> allowance transfer deadline, hold CO<sub>2</sub> allowances available for compliance deductions under § 145.355 (relating to compliance), in the source's compliance account, as follows:

(i) For a control period, the amount of CO<sub>2</sub> allowances held shall be no less than the total CO<sub>2</sub> emissions for the control period from all CO<sub>2</sub> budget units at the source, less the CO<sub>2</sub> allowances deducted to meet the requirements of subsection (c)(2)(ii), with respect to the previous 2 interim control periods, as determined in accordance with §§ 145.351—145.358 (relating to CO<sub>2</sub> allowance tracking system) and §§ 145.371—145.377.

(ii) For an interim control period, the amount of CO<sub>2</sub> allowances held shall be no less than the total CO<sub>2</sub> emissions for the interim control period from all CO<sub>2</sub> budget units at the source multiplied by 0.50, as determined in accordance with §§ 145.351—145.358 and 145.371—145.377.

(3) Each ton of CO<sub>2</sub> emitted in excess of the CO<sub>2</sub> budget emissions limitation for a control period shall constitute a separate violation of this subchapter and the act.

(4) Each ton of excess interim emissions shall constitute a separate violation of this subchapter and the act.

(5) CO<sub>2</sub> allowances shall be held in, deducted from, or transferred among COATS accounts in accordance with §§ 145.341—145.343 (relating to CO<sub>2</sub> allowance allocations), 145.351—145.358, and 145.361—145.363 (relating to CO<sub>2</sub> allowance transfers) and 145.397 (relating to award and recordation of CO<sub>2</sub> offset allowances).

(6) A CO<sub>2</sub> allowance shall not be deducted, to comply with the requirements under subsection (c), for a control period or interim control period that ends prior to the year for which the CO<sub>2</sub> allowance was allocated.

(7) A CO<sub>2</sub> offset allowance shall not be deducted, to comply with the requirements under subsection (c), beyond the applicable percent limitations in § 145.355(a)(3).

(8) A CO<sub>2</sub> allowance is a limited authorization by the Department or a participating state to emit 1 ton of CO<sub>2</sub> in accordance with the CO<sub>2</sub> Budget Trading Program. No provision of the CO<sub>2</sub> Budget Trading Program, this subchapter, an application for a new, renewed or modified permit to incorporate the requirements of the CO<sub>2</sub> Budget Trading Program, a permit that includes the requirements of the CO<sub>2</sub> Budget Trading Program, or any



provision of law shall be construed to limit the authority of the Department or a participating state to terminate or limit the authorization.

(9) A CO<sub>2</sub> allowance under the CO<sub>2</sub> Budget Trading Program does not constitute a property right.

(d) *Excess emissions requirements.* The owner or operator of a CO<sub>2</sub> budget source that has excess emissions in any control period or excess interim emissions for any interim control period shall do the following:

(1) Forfeit the CO<sub>2</sub> allowances required for deduction under § 145.355(d)(1) and (2).

(2) Pay any fine, penalty or assessment or comply with any other remedy imposed under § 145.355(d)(3).

(e) *Recordkeeping and reporting requirements.*

(1) Except as provided in subsection (e)(1)(i), the owner or operator of the CO<sub>2</sub> budget source and each CO<sub>2</sub> budget unit at the source shall maintain at a central location and provide upon request by the Department the following documents for 10 years from the date the document is created. This period may be extended for cause, at any time prior to the end of 10 years, in writing by the Department.

(i) The account certificate of representation for the CO<sub>2</sub> authorized account representative for the CO<sub>2</sub> budget source and each CO<sub>2</sub> budget unit at the source and all documents that demonstrate the truth of the statements in the account certificate of representation, in accordance with § 145.314 (relating to account certificate of representation). The certificate and documents shall be retained beyond the 10-year period until the documents are superseded because of the submission of a new account certificate of representation changing the CO<sub>2</sub> authorized account representative.

(ii) The emissions monitoring information, in accordance with §§ 145.371—145.377 and 40 CFR 75.57 (relating to general recordkeeping provisions).

(iii) Copies of all reports, compliance certifications and other submissions and all records made or required under the CO<sub>2</sub> Budget Trading Program.

(iv) Copies of the documents used to complete an application for a new or modified permit that incorporates the requirements of the CO<sub>2</sub> Budget Trading Program and any submission under the CO<sub>2</sub> Budget Trading Program or to demonstrate compliance with the requirements of the CO<sub>2</sub> Budget Trading Program.

(2) The CO<sub>2</sub> authorized account representative of a CO<sub>2</sub> budget source and each CO<sub>2</sub> budget unit at the source shall submit the reports and compliance certifications required under this subchapter, including the requirements under §§ 145.331 and 145.332 (relating to compliance certification report; and Department action on compliance certifications).

(f) *Liability.*

(1) Except as provided under § 127.403 (relating to permitting of sources operating lawfully without a permit), a permit revision may not excuse any violation of the requirements of this subchapter that occurs prior to the date that the revision takes effect.

(2) Any provision of this subchapter that applies to a CO<sub>2</sub> authorized account representative shall apply to the owner or operator of the source and of the CO<sub>2</sub> budget units at the source.

(3) Any provision of this subchapter that applies to a CO<sub>2</sub> budget source shall also apply to the owner or operator of the source and of the CO<sub>2</sub> budget units at the source.

(4) Any provision of this subchapter that applies to a CO<sub>2</sub> budget unit shall also apply to the owner or operator of the unit.

(g) *Effect on other authorities.* No provision of this subchapter, a permit application or a permit shall be construed as exempting or excluding the owner or operator and, to the extent applicable, the CO<sub>2</sub> authorized account representative, from compliance with any provision of the act, the Clean Air Act or the regulations promulgated under the Clean Air Act or the act.

#### § 145.307. Computation of time.

(a) Unless otherwise stated, any time period scheduled, under the CO<sub>2</sub> Budget Trading Program, to begin on the occurrence of an act or event shall begin on the day the act or event occurs.

(b) Unless otherwise stated, any time period scheduled, under the CO<sub>2</sub> Budget Trading Program, to begin before the occurrence of an act or event shall be computed so that the period ends the day before the act or event occurs.

(c) Unless otherwise stated, if the final day of any time period, under the CO<sub>2</sub> Budget Trading Program, falls on a weekend or a State or Federal holiday, the time period shall be extended to the next business day.

#### CO<sub>2</sub> AUTHORIZED ACCOUNT REPRESENTATIVE FOR A CO<sub>2</sub> BUDGET SOURCE

Sec.

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

145.312. CO<sub>2</sub> authorized alternate account representative.

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

145.314. Account certificate of representation.

145.315. Objections concerning the CO<sub>2</sub> authorized account representative.

145.316. Delegation of authority to make electronic submissions and review information in COATS.

#### § 145.311. Authorization and responsibilities of the CO<sub>2</sub> authorized account representative.

(a) Except as provided under § 145.312 (relating to CO<sub>2</sub> authorized alternate account representative), each CO<sub>2</sub> budget source, including all CO<sub>2</sub> budget units at the source, shall have only one CO<sub>2</sub> authorized account representative, with regard to all matters under the CO<sub>2</sub> Budget Trading Program concerning the source or any CO<sub>2</sub> budget unit at the source.

(b) The CO<sub>2</sub> authorized account representative of the CO<sub>2</sub> budget source shall be selected by an agreement binding on the owner or operator of the source and all CO<sub>2</sub> budget units at the source and must act in accordance with the certificate of representation under § 145.314 (relating to account certificate of representation).

(c) Upon receipt by the Department or its agent of a complete account certificate of representation under § 145.314, the CO<sub>2</sub> authorized account representative of the source shall represent and, by their representations, actions, inactions or submissions, legally bind each owner and operator of the CO<sub>2</sub> budget source represented and each CO<sub>2</sub> budget unit at the source in all matters pertaining to the CO<sub>2</sub> Budget Trading Program, notwithstanding any agreement between the CO<sub>2</sub> authorized

account representative and the owner or operator. The owner or operator shall be bound by any decision or order issued to the CO<sub>2</sub> authorized account representative by the Department or a court regarding the source or unit.

(d) The Department will issue a permit that incorporates the requirements of the CO<sub>2</sub> Budget Trading Program and establish a COATS account for a CO<sub>2</sub> budget source only after the Department or its agent has received a complete account certificate of representation under § 145.314 for a CO<sub>2</sub> authorized account representative of the source and the CO<sub>2</sub> budget units at the source.

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

“I am authorized to make this submission on behalf of the owner or operator of the CO<sub>2</sub> budget sources or CO<sub>2</sub> budget units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate and complete. I am aware that there are significant penalties under 18 Pa.C.S. § 4904 for submitting false statements and information or omitting required statements and information.”

(f) The Department or its agent will accept or act on a submission made on behalf of the owner or operator of a CO<sub>2</sub> budget source or a CO<sub>2</sub> budget unit only if the submission has been made, signed and certified in accordance with subsection (e).

**§ 145.312. CO<sub>2</sub> authorized alternate account representative.**

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

(b) Upon receipt by the Department or its agent of a complete account certificate of representation under § 145.314 (relating to account certificate of representation), any representation, action, inaction or submission by the CO<sub>2</sub> authorized alternate account representative shall be deemed to be a representation, action, inaction or submission by the CO<sub>2</sub> authorized account representative.

(c) Except in this section and §§ 145.311(a), 145.313, 145.314 and 145.352, whenever the term “CO<sub>2</sub> authorized account representative” is used in this subchapter, the term shall include the CO<sub>2</sub> authorized alternate account representative.

**§ 145.313. Changing the CO<sub>2</sub> authorized account representative and the CO<sub>2</sub> authorized alternate account representative; changes in the owner or operator.**

(a) *Changing the CO<sub>2</sub> authorized account representative.* The CO<sub>2</sub> authorized account representative may be changed at any time upon receipt by the Department or

its agent of a superseding complete account certificate of representation under § 145.314 (relating to account certificate of representation). Notwithstanding a change, the representations, actions, inactions and submissions by the previous CO<sub>2</sub> authorized account representative or CO<sub>2</sub> authorized alternate account representative prior to the time and date when the Department or its agent receives the superseding account certificate of representation shall be binding on the new CO<sub>2</sub> authorized account representative and the owner or operator of the CO<sub>2</sub> budget source and the CO<sub>2</sub> budget units at the source.

(b) *Changing the CO<sub>2</sub> authorized alternate account representative.* The CO<sub>2</sub> authorized alternate account representative may be changed at any time upon receipt by the Department or its agent of a superseding complete account certificate of representation under § 145.314. Notwithstanding a change, the representations, actions, inactions and submissions by the previous CO<sub>2</sub> authorized alternate account representative prior to the time and date when the Department or its agent receives the superseding account certificate of representation shall be binding on the new CO<sub>2</sub> authorized alternate account representative and the owner or operator of the CO<sub>2</sub> budget source and the CO<sub>2</sub> budget units at the source.

(c) *Changes in the owner or operator.*

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

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

**§ 145.314. Account certificate of representation.**

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

(1) Identification of the CO<sub>2</sub> budget source and each CO<sub>2</sub> budget unit at the source for which the account certificate of representation is submitted.

(2) The name, address, e-mail address and telephone number of the CO<sub>2</sub> authorized account representative and any CO<sub>2</sub> authorized alternate account representative.

(3) A list of the owners and operators of the CO<sub>2</sub> budget source and of each CO<sub>2</sub> budget unit at the source.

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

“I certify that I was selected as the CO<sub>2</sub> authorized account representative or CO<sub>2</sub> authorized alternate account representative, as applicable, by an agreement binding on the owner or operator of the CO<sub>2</sub> budget source and each CO<sub>2</sub> budget unit at the source. I certify

that I have all the necessary authority to carry out my duties and responsibilities under the CO<sub>2</sub> Budget Trading Program on behalf of the owner or operator of the CO<sub>2</sub> budget source and of each CO<sub>2</sub> budget unit at the source and that each owner and operator shall be fully bound by my representations, actions, inactions, or submissions and by any decision or order issued to me by the Department or a court regarding the source or unit.”

(5) The signature of the CO<sub>2</sub> authorized account representative and any CO<sub>2</sub> authorized alternate account representative and the dates signed.

(b) Unless otherwise required by the Department or its agent, documents of agreement referred to in the account certificate of representation shall not be submitted to the Department or its agent. The Department and its agent are not under any obligation to review or evaluate the sufficiency of documents of agreement, if submitted.

**§ 145.315. Objections concerning the CO<sub>2</sub> authorized account representative.**

(a) Once a complete account certificate of representation under § 145.314 (relating to account certificate of representation) has been submitted and received, the Department and its agent will rely on the account certificate of representation unless the Department or its agent receives a superseding complete account certificate of representation under § 145.314.

(b) Except as provided in § 145.313(a) or (b) (relating to changing the CO<sub>2</sub> authorized account representative and the CO<sub>2</sub> authorized alternate account representative; changes in the owners and operators), an objection or other communication submitted to the Department or its agent concerning the authorization, or any representation, action, inaction or submission of the CO<sub>2</sub> authorized account representative will not affect any representation, action, inaction or submission of the CO<sub>2</sub> authorized account representative or the finality of a decision or order by the Department or its agent under the CO<sub>2</sub> Budget Trading Program.

(c) The Department and its agent will not adjudicate any private legal dispute concerning the authorization or any representation, action, inaction or submission of a CO<sub>2</sub> authorized account representative, including private legal disputes concerning the proceeds of CO<sub>2</sub> allowance transfers.

**§ 145.316. Delegation of authority to make electronic submissions and review information in COATS.**

(a) A CO<sub>2</sub> authorized account representative or a CO<sub>2</sub> authorized alternate account representative may delegate, to one or more persons, their authority to make an electronic submission to the Department or its agent under this subchapter.

(b) To delegate authority to make an electronic submission to the Department or its agent, the CO<sub>2</sub> authorized account representative or CO<sub>2</sub> authorized alternate account representative must submit to the Department or its agent a notice of delegation, in a format prescribed by the Department that includes the following:

(1) The name, address, e-mail address and telephone number of the delegating CO<sub>2</sub> authorized account representative or CO<sub>2</sub> authorized alternate account representative.

(2) The name, address, e-mail address and telephone number of each electronic submission agent.

(3) For each electronic submission agent, a list of the type of electronic submissions under subsection (a) for which authority is delegated.

(4) The following certification statements by the delegating CO<sub>2</sub> authorized account representative or CO<sub>2</sub> authorized alternate account representative:

(i) “I agree that any electronic submission to the Department or its agent that is by the electronic submission agent identified in this notice of delegation and of a type listed for the electronic submission agent in this notice of delegation and that is made when I am a CO<sub>2</sub> authorized account representative or CO<sub>2</sub> authorized alternate account representative and before this notice of delegation is superseded by another notice of delegation under subsection (d) shall be deemed to be an electronic submission by me.”

(ii) “Until this notice of delegation is superseded by another notice of delegation under subsection (d), I agree to maintain an e-mail account and to notify the Department or its agent immediately of any change in my e-mail address unless all delegation authority by me under this subsection is terminated.”

(c) A notice of delegation submitted under subsection (b) will be effective, with regard to the CO<sub>2</sub> authorized account representative or CO<sub>2</sub> authorized alternate account representative identified in the notice, upon receipt of the notice by the Department or its agent and until receipt by the Department or its agent of a superseding notice of delegation by the CO<sub>2</sub> authorized account representative or CO<sub>2</sub> authorized alternate account representative. 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 under subsection (b)(4) and made in accordance with a notice of delegation effective under subsection (b) shall be deemed to be an electronic submission by the CO<sub>2</sub> authorized account representative or CO<sub>2</sub> authorized alternate account representative submitting the notice of delegation.

(e) A CO<sub>2</sub> authorized account representative or a CO<sub>2</sub> authorized alternate account representative may delegate, to one or more persons, their authority to review information in COATS under this subchapter.

(f) To delegate authority to review information in COATS under subsection (e), the CO<sub>2</sub> authorized account representative or CO<sub>2</sub> authorized alternate account representative must submit to the Department or its agent a notice of delegation, in a format prescribed by the Department that includes the following:

(1) The name, address, e-mail address and telephone number of the delegating CO<sub>2</sub> authorized account representative or CO<sub>2</sub> authorized alternate account representative.

(2) The name, address, e-mail address and telephone number of each reviewer.

(3) For each reviewer, a list of the type of information under subsection (e) for which authority is delegated.

(4) The following certification statements by the delegating CO<sub>2</sub> authorized account representative or CO<sub>2</sub> authorized alternate account representative:

(i) “I agree that any information that is reviewed by the reviewer identified in this notice of delegation and of a type listed for the information accessible by the re-



viewer in this notice of delegation and that is made when I am a CO<sub>2</sub> authorized account representative or CO<sub>2</sub> authorized alternate account representative and before this notice of delegation is superseded by another notice of delegation under subsection (g) shall be deemed to be a review by me.”

(ii) “Until this notice of delegation is superseded by another notice of delegation under subsection (g), I agree to maintain an e-mail account and to notify the Department or its agent immediately of any change in my e-mail address unless all delegation authority by me under this subsection is terminated.”

(g) A notice of delegation submitted under subsection (f) shall be effective, with regard to the CO<sub>2</sub> authorized account representative or CO<sub>2</sub> authorized alternate account representative identified in the notice, upon receipt of the notice by the Department or its agent and until receipt by the Department or its agent of a superseding notice of delegation by the CO<sub>2</sub> authorized account representative or CO<sub>2</sub> authorized alternate account representative. The superseding notice of delegation may replace any previously identified reviewer, add a new reviewer or eliminate entirely any delegation of authority.

**PERMITS**

- Sec. 145.321. General requirements for a permit incorporating CO<sub>2</sub> Budget Trading Program requirements.
- 145.322. Submission of an application for a new, renewed or modified permit incorporating CO<sub>2</sub> Budget Trading Program requirements.
- 145.323. Contents of an application for a permit incorporating CO<sub>2</sub> Budget Trading Program requirements.

**§ 145.321. General requirements for a permit incorporating CO<sub>2</sub> Budget Trading Program requirements.**

(a) Except as provided under § 127.403 (relating to permitting of sources operating lawfully without a permit), each CO<sub>2</sub> budget source must have a permit issued by the Department under Chapter 127 (relating to construction, modification, reactivation and operation of sources).

(b) The permit for each CO<sub>2</sub> budget source shall contain all applicable CO<sub>2</sub> Budget Trading Program requirements.

**§ 145.322. Submission of an application for a new, renewed or modified permit incorporating CO<sub>2</sub> Budget Trading Program requirements.**

(a) For any CO<sub>2</sub> budget source, the owner or operator shall submit a complete permit application under Chapter 127 (relating to construction, modification, reactivation and operation of sources) incorporating the CO<sub>2</sub> Budget Trading Program requirements in this subchapter to the Department by the later of the following:

- (1) 6 months after \_\_\_\_\_ (*Editor’s Note:* The blank refers to the effective date of this rulemaking, when published as a final-form rulemaking.)
- (2) 12 months before the date on which the CO<sub>2</sub> budget source, or a new unit at the source, commences operation.

(b) If the Department approves the incorporation of CO<sub>2</sub> Budget Trading Program requirements into a permit, the Department will establish permit conditions in the permit that will enable the Department to readily verify whether emissions from the source operations meet the requirements of this subchapter. Such permit conditions will set forth replicable procedures, including monitoring, source emissions testing and recordkeeping and reporting procedures, sufficient to ensure that emissions are quanti-

fied and recorded and that compliance with the emissions limitation under this subchapter is enforceable.

**§ 145.323. Contents of an application for a permit incorporating CO<sub>2</sub> Budget Trading Program requirements.**

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

- (1) Identification of the CO<sub>2</sub> budget source, including plant name and the Office of Regulatory Information Systems or facility code assigned to the source by the Energy Information Administration of the United States Department of Energy, if applicable.
- (2) Identification of each CO<sub>2</sub> budget unit at the CO<sub>2</sub> budget source.
- (3) The standard requirements under § 145.306 (relating to standard requirements).
- (4) The compliance certification requirements under § 145.331 (relating to compliance certification report).
- (5) The compliance requirements under § 145.355 (relating to compliance).
- (6) The monitoring, recordkeeping and reporting requirements under §§ 145.371—145.377 (relating to monitoring, reporting and recordkeeping requirements).

**COMPLIANCE CERTIFICATION**

- Sec. 145.331. Compliance certification report.
- 145.332. Department action on compliance certifications.

**§ 145.331. Compliance certification report.**

(a) *Applicability and deadline.* For each control period, except for an interim control period, in which a CO<sub>2</sub> budget source is subject to the CO<sub>2</sub> requirements of § 145.306(c) (relating to standard requirements), the CO<sub>2</sub> authorized account representative of the source shall submit a compliance certification report to the Department by March 1 following the relevant control period.

(b) *Contents of report.* The CO<sub>2</sub> authorized account representative shall include in the compliance certification report under subsection (a) the following:

- (1) Identification of the CO<sub>2</sub> budget source and each CO<sub>2</sub> budget unit at the source.
- (2) At the CO<sub>2</sub> authorized account representative’s option, the serial numbers of the CO<sub>2</sub> allowances that are to be deducted from the source’s compliance account under § 145.355 (relating to compliance) for the control period or an interim control period, including the serial numbers of any CO<sub>2</sub> offset allowances that are to be deducted subject to the limitations of § 145.355(a)(3).
- (3) The compliance certification under subsection (c).

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

(1) Whether the CO<sub>2</sub> budget source was operated in compliance with the CO<sub>2</sub> requirements of § 145.306(c).

(2) Whether the monitoring plan applicable to each unit at the source has been maintained to reflect the actual operation and monitoring of the unit and contains the information necessary to attribute CO<sub>2</sub> emissions to the unit, in accordance with §§ 145.371—145.377 (relating to monitoring, reporting and recordkeeping requirements).

(3) Whether all the CO<sub>2</sub> emissions from the units at the source were monitored or accounted for through the missing data procedures and reported in the quarterly monitoring reports, including whether conditional data were reported in the quarterly reports in accordance with §§ 145.371—145.377. 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 §§ 145.371—145.377 of each monitor at each unit at the source, or for using an excepted monitoring method or alternative monitoring method approved under §§ 145.371—145.377, if any, have changed.

(5) If a change is required to be reported under subsection (c)(4), specify the nature of the change, the reason for the change, when the change occurred and how the unit's compliance status was determined subsequent to the change, including what method was used to determine emissions when a change mandated the need for monitor recertification.

**§ 145.332. Department action on compliance certifications.**

(a) The Department or its agent may review and conduct independent audits concerning any compliance certification or any other submission under the CO<sub>2</sub> Budget Trading Program and make appropriate adjustments of the information in the compliance certification or other submission.

(b) The Department or its agent may deduct CO<sub>2</sub> allowances from or transfer CO<sub>2</sub> allowances to a CO<sub>2</sub> budget source's compliance account based on the information in the compliance certification or other submission, as adjusted under subsection (a).

**CO<sub>2</sub> ALLOWANCE ALLOCATIONS**

Sec.

145.341. Pennsylvania CO<sub>2</sub> Budget Trading Program base budget.

145.342. CO<sub>2</sub> allowance allocations.

145.343. Distribution of CO<sub>2</sub> allowances in the air pollution reduction account.

**§ 145.341. Pennsylvania CO<sub>2</sub> Budget Trading Program base budget.**

(a) For 2022, the Pennsylvania CO<sub>2</sub> Budget Trading Program base budget is 78,000,000 tons.

(b) For 2023, the Pennsylvania CO<sub>2</sub> Budget Trading Program base budget is 75,510,630 tons.

(c) For 2024, the Pennsylvania CO<sub>2</sub> Budget Trading Program base budget is 73,021,260 tons.

(d) For 2025, the Pennsylvania CO<sub>2</sub> Budget Trading Program base budget is 70,531,890 tons.

(e) For 2026, the Pennsylvania CO<sub>2</sub> Budget Trading Program base budget is 68,042,520 tons.

(f) For 2027, the Pennsylvania CO<sub>2</sub> Budget Trading Program base budget is 65,553,150 tons.

(g) For 2028, the Pennsylvania CO<sub>2</sub> Budget Trading Program base budget is 63,063,780 tons.

(h) For 2029, the Pennsylvania CO<sub>2</sub> Budget Trading Program base budget is 60,574,410 tons.

(i) For 2030 and each succeeding calendar year, the Pennsylvania CO<sub>2</sub> Budget Trading Program base budget is 58,085,040 tons.

**§ 145.342. CO<sub>2</sub> allowance allocations.**

(a) *General allocations.* The Department will allocate CO<sub>2</sub> allowances representing 100% of the tons for each allocation year from the Pennsylvania CO<sub>2</sub> Budget Trading Program base budget set forth in § 145.341 (relating to Pennsylvania CO<sub>2</sub> Budget Trading Program base budget) to the air pollution reduction account, less those CO<sub>2</sub> allowances set aside each allocation year under subsection (b).

(b) *Set-aside allocations.*

(1) *Waste coal set-aside account.* The Department will allocate CO<sub>2</sub> allowances to a waste coal set-aside account for each allocation year from the Pennsylvania CO<sub>2</sub> Budget Trading Program base budget set forth in § 145.341, as provided under subsection (i).

(2) *Strategic use set-aside account.* The Department will allocate undistributed CO<sub>2</sub> allowances to the strategic use set-aside account for each allocation year from the waste coal set-aside account, as provided under subsection (j).

(3) *Cogeneration set-aside account.* The Department will allocate CO<sub>2</sub> allowances to a cogeneration set-aside account for each allocation year from the Pennsylvania CO<sub>2</sub> Budget Trading Program base budget set forth in § 145.341, as provided under subsection (k).

(c) *CO<sub>2</sub> allowances available for allocation.* For the allocation year 2022 and each succeeding calendar year, the Pennsylvania CO<sub>2</sub> Budget Trading Program adjusted budget shall be the maximum number of CO<sub>2</sub> allowances available for allocation in a given allocation year, except for CO<sub>2</sub> offset allowances and CO<sub>2</sub> CCR allowances. In any year in which there is no adjusted budget, the adjusted budget shall equal the base budget.

(d) *Cost Containment Reserve (CCR) allocation.* To contain the cost of CO<sub>2</sub> allowances, the Department will allocate CO<sub>2</sub> CCR allowances, separate from and additional to the Pennsylvania CO<sub>2</sub> Budget Trading Program base budget set forth in § 145.341, to the air pollution reduction account. The Department will allocate CO<sub>2</sub> CCR allowances by doing the following:

(1) The Department will initially allocate CCR allowances for calendar year 2022 in an amount equal to 10% of the Pennsylvania CO<sub>2</sub> Budget Trading Program base budget for 2022 set forth in § 145.341(a).

(2) On or before January 1, 2023, and on or before January 1 of each calendar year thereafter, the Department will allocate current vintage year CCR allowances equal to 10% of the Pennsylvania CO<sub>2</sub> Budget Trading Program base budget for the calendar year and withdraw the number of CO<sub>2</sub> CCR allowances that remain in the air pollutant reduction account at the end of the prior calendar year.

(e) *Emissions Containment Reserve (ECR) Withholding.* To provide additional emissions reductions in the event of lower than anticipated emissions reduction costs, the Department will convert and transfer any CO<sub>2</sub> allowances

that have been withheld from any auction into the Pennsylvania ECR account. The Department will withhold CO<sub>2</sub> ECR allowances by doing the following:

(1) If the condition in § 145.382(d)(1) (relating to general requirements) is met at an auction, then the maximum number of CO<sub>2</sub> ECR allowances that will be withheld from that auction will be equal to 10% of the Pennsylvania CO<sub>2</sub> Budget Trading Program base budget for that calendar year minus the total quantity of CO<sub>2</sub> ECR allowances that have been withheld from any prior auction in that calendar year. Any CO<sub>2</sub> ECR allowances withheld from an auction will be transferred into the Pennsylvania ECR account.

(2) CO<sub>2</sub> allowances that have been transferred into the Pennsylvania ECR account will remain in the Pennsylvania ECR account as CO<sub>2</sub> ECR allowances and not be withdrawn.

(f) *Adjustment for banked allowances.* The Department may determine whether any adjustments for banked allowances will be made by using the following formula:

$$ABA = ((A - AE)/Y) \times RS\%$$

Where:

ABA = The adjustment for banked allowances quantity in tons.

A (adjustment) = The total quantity of CO<sub>2</sub> allowances of vintage years held in general and compliance accounts, including compliance accounts established under the CO<sub>2</sub> Budget Trading Program, but not including accounts opened by participating states, as reflected in COATS.

AE (adjustment emissions) = The total quantity of emissions from all CO<sub>2</sub> budget sources in all participating states, reported under the CO<sub>2</sub> Budget Trading Program as reflected in COATS prior to the year of the adjustment.

RS% = The Commonwealth's adjustment year budget divided by the adjustment year regional budget.

Y = The time period in years over which the adjustment occurs.

(g) *CO<sub>2</sub> Budget Trading Program adjusted budget.* The Department may establish the Pennsylvania CO<sub>2</sub> Budget Trading Program adjusted budget for an allocation year by the following formula:

$$AB = BB - ABA$$

Where:

AB = The Pennsylvania CO<sub>2</sub> Budget Trading Program adjusted budget.

BB = The Pennsylvania CO<sub>2</sub> Budget Trading Program base budget.

ABA = The adjustment for banked allowances quantity in tons.

(h) If the Department determines to adjust the budget for banked allowances under subsections (f) and (g), the Department will publish in the *Pennsylvania Bulletin* the CO<sub>2</sub> Budget Trading Program adjusted budget for the allocation year.

(i) *Waste coal set-aside allocation.* The waste coal set-aside allocation will consist of tons from the Pennsylvania CO<sub>2</sub> Budget Trading Program base budget set forth in § 145.341, as applicable. The Department will administer the waste coal set-aside account in accordance with the following:

(1) *Applicability.* This subsection applies to waste coal-fired units located in Pennsylvania that commenced op-

eration on or before \_\_\_\_\_ (*Editor's Note:* The blank refers to the effective date of this rulemaking, when published as a final-form rulemaking.), that are subject to the CO<sub>2</sub> Budget Trading Program requirements under § 145.304 (relating to applicability).

(2) *General account.* The Department will open and manage a general account for the waste coal set-aside account.

(3) *Allowance transfer.* By March 1 of each calendar year, the Department may transfer a portion of the CO<sub>2</sub> allowances allocated to the air pollution reduction account to the waste coal set-aside account in an amount equal to legacy emissions from waste coal-fired units applicable under subsection (i)(1). The Department has determined that the total amount of legacy emissions equal 9,300,000 tons.

(4) *Compliance allocation.* Except for a year with an exceedance of legacy emissions under subsection (i)(5), by March 1 of each calendar year, the Department will allocate CO<sub>2</sub> allowances from the waste coal set-aside account to the compliance account of each waste coal-fired unit in an amount equal to the actual number of CO<sub>2</sub> emissions in tons emitted from the waste coal-fired unit during the previous year.

(i) After allocating CO<sub>2</sub> allowances under subsection (i)(4), the Department will transfer any undistributed CO<sub>2</sub> allowances from the waste coal set-aside account to the strategic use set-aside account.

(ii) CO<sub>2</sub> allowances allocated under this subsection must only be used for compliance with the CO<sub>2</sub> budget emissions limitation for the waste coal-fired unit. The sale or transfer of CO<sub>2</sub> allowances from the unit's compliance account will be considered a violation of this subchapter.

(5) *Exception for exceedance of legacy emissions.* If the total actual CO<sub>2</sub> emissions from waste coal-fired units exceed 9,300,000 tons during a calendar year, the Department will account for the exceedance as follows:

(i) By February 15 of the year following the exceedance, the Department will determine the difference between each unit's legacy emissions and the unit's actual emissions during the previous year.

(ii) By February 15 of the year following the exceedance, the Department will allocate CO<sub>2</sub> allowances from the waste coal set-aside account to the compliance account of each waste coal-fired unit in an amount equal to the actual number of CO<sub>2</sub> emissions in tons emitted from the waste coal-fired unit during the previous year minus the exceedance of legacy emissions.

(iii) After the allocation under subsection (i)(5)(ii), if there are CO<sub>2</sub> allowances remaining in the waste coal set-aside account, the Department may distribute CO<sub>2</sub> allowances to each waste coal-fired unit requiring CO<sub>2</sub> allowances to meet the CO<sub>2</sub> requirements under § 145.306(c) (relating to standard requirements) in an amount proportionate to the exceedance.

(iv) By the CO<sub>2</sub> allowance transfer deadline of the year following the exceedance, the owner or operator of each waste coal-fired unit requiring additional CO<sub>2</sub> allowances to satisfy the CO<sub>2</sub> requirements under § 145.306(c) must transfer CO<sub>2</sub> allowances for compliance deductions under § 145.355 (relating to compliance) to the compliance account of the unit.

(6) *Set-aside termination.* If no CO<sub>2</sub> allowances are allocated under subsection (i)(4) in any calendar year due



to the fact that there were no actual CO<sub>2</sub> emissions from waste coal-fired units subject to this subsection, then the CO<sub>2</sub> allowances remaining in the waste coal set-aside account will be transferred to the strategic use set-aside account. No additional CO<sub>2</sub> allowances will be allocated to the waste coal set-aside account under subsection (i)(3) and the Department will close the waste coal set-aside account.

(j) *Strategic use set-aside allocation.* The strategic use set-aside allocation will consist of undistributed CO<sub>2</sub> allowances from the waste coal set-aside account. The Department will administer the strategic use set-aside account in accordance with the following:

(1) *General account.* The Department will open and manage a general account for the strategic use set-aside account.

(2) *Allowance transfer.* By April 1 of each calendar year, the Department will transfer undistributed CO<sub>2</sub> allowances allocated to the waste coal set-aside account to the strategic use set-aside account.

(3) *Allocation to eligible projects.* The Department may distribute CO<sub>2</sub> allowances from the strategic use set-aside account for the use in the elimination of air pollution including the following:

(i) Encourage and foster promotion of energy efficiency measures.

(ii) Promotion of renewable or noncarbon-emitting energy technologies.

(iii) Stimulation or reward of investment in the development of innovative carbon emissions abatement technologies with significant carbon reduction potential.

(k) *Cogeneration set-aside allocation.* The cogeneration set-aside allocation will consist of tons from the Pennsylvania CO<sub>2</sub> Budget Trading Program base budget set forth in § 145.341, as applicable. The Department will administer the cogeneration set-aside account in accordance with the following:

(1) *Applicability.* The Department will adjust the compliance obligation of a CO<sub>2</sub> budget unit that is a cogeneration unit for which a complete application has been filed under subsection (k)(3).

(2) *General account.* The Department will open and manage a general account for the cogeneration set-aside account.

(3) *Compliance obligation adjustment application.* By January 30 of the year following the allocation year for which the compliance obligation adjustment is being requested, the CO<sub>2</sub> authorized account representative seeking the compliance obligation adjustment for a cogeneration unit shall submit to the Department a complete application, in a format prescribed by the Department, that includes the following:

(i) Documentation that the CO<sub>2</sub> budget unit is a cogeneration unit.

(ii) Identification of the compliance account for the CO<sub>2</sub> budget unit.

(iii) Identification of the allocation year for which an adjustment request is being made.

(iv) Specification of the amount of the adjustment being requested, as determined under subsection (k)(4).

(v) The calculations and supporting data used to determine the compliance obligation adjustment being requested and an explanation of the data and the methods on which the calculations are based.

(4) *Compliance obligation adjustment determination.* After verifying that the information submitted in the application under paragraph (k)(3) is complete and accurate, the Department will determine the compliance obligation adjustment for a CO<sub>2</sub> budget unit that meets the applicability requirements under paragraph (k)(1) based on the CO<sub>2</sub> emissions from the CO<sub>2</sub> budget unit during the allocation year for which an adjustment request is being submitted. The Department will adjust the compliance obligation by reducing the total CO<sub>2</sub> emissions by an amount equal to the CO<sub>2</sub> that is emitted as a result of providing useful thermal energy or electricity, or both, supplied directly to the co-located facility during the allocation year. The compliance obligation will include CO<sub>2</sub> emissions associated with the production of electricity that is supplied to a regional electric grid, transmission and related distribution systems and the cogeneration unit will be responsible for securing CO<sub>2</sub> allowances for those emissions.

(5) *Retirement and transfer of CO<sub>2</sub> allowances.* At the end of each control period, the Department will retire CO<sub>2</sub> allowances from the cogeneration set-aside account in an amount equal to the CO<sub>2</sub> emissions deducted from one or more compliance obligations under subsection (k)(4). The Department will transfer any remaining CO<sub>2</sub> allowances to the air pollution reduction account to be available for auction.

#### § 145.343. Distribution of CO<sub>2</sub> allowances in the air pollution reduction account.

(a) Except for the CO<sub>2</sub> allowances allocated to the waste coal set-aside account under § 145.342(i) (relating to CO<sub>2</sub> allowance allocations), the strategic use set-aside account under § 145.342(j) and the cogeneration set-aside account under § 145.342(k), the Department will make all CO<sub>2</sub> allowances for an allocation year that are held in the air pollution reduction 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.

(b) The Department will administer the air pollution reduction account so that CO<sub>2</sub> allowances will be sold in a transparent allowance auction. The proceeds of the auction will be used in the elimination of air pollution in accordance with the act and Chapter 143 (relating to disbursements from the Clean Air Fund) and for programmatic costs associated with the CO<sub>2</sub> Budget Trading Program.

(c) The Department or its agent, will not be obligated to sell any CO<sub>2</sub> allowances for less than the reserve price.

(d) The Department may transfer to the air pollution reduction account undistributed or unsold CO<sub>2</sub> allowances at the end of each control period, including CO<sub>2</sub> allowances allocated to the waste coal set-aside account under § 145.342(i), the strategic use set-aside account under § 145.342(j) and the cogeneration set-aside account under § 145.342(k).

#### CO<sub>2</sub> ALLOWANCE TRACKING SYSTEM

Sec.	
145.351.	CO <sub>2</sub> Allowance Tracking System (COATS) accounts.
145.352.	Establishment of accounts.
145.353.	COATS responsibilities of CO <sub>2</sub> authorized account representative and CO <sub>2</sub> authorized alternate account representative.
145.354.	Recordation of CO <sub>2</sub> allowance allocations.
145.355.	Compliance.
145.356.	Banking.
145.357.	Account error.
145.358.	Closing of general accounts.

**§ 145.351. CO<sub>2</sub> Allowance Tracking System (COATS) accounts.**

(a) *Nature and function of compliance accounts.* Consistent with § 145.352(a) (relating to establishment of accounts), the Department or its agent will establish one compliance account for each CO<sub>2</sub> budget source. Allocations of CO<sub>2</sub> allowances under §§ 145.341—145.343 (relating to CO<sub>2</sub> allowance allocations) and deductions or transfers of CO<sub>2</sub> allowances under §§ 145.332, 145.355 and 145.357 (relating to Department action on compliance certifications; compliance; and account error) or §§ 145.361—145.363 (relating to of CO<sub>2</sub> allowance transfers) will be recorded in the compliance accounts.

(b) *Nature and function of general accounts.* Consistent with § 145.352(b), the Department or its agent will establish, upon request, a general account for any person. Transfers of CO<sub>2</sub> allowances under §§ 145.361—145.363 will be recorded in the general account.

**§ 145.352. Establishment of accounts.**

(a) *Compliance accounts.* Upon receipt of a complete account certificate of representation under § 145.314 (relating to account certificate of representation), the Department or its agent will establish a compliance account for each CO<sub>2</sub> budget source for which the account certificate of representation was submitted.

(b) *General accounts.*

(1) Any person may apply to open a general account for the purpose of holding and transferring CO<sub>2</sub> allowances by submitting a complete application for a general account to the Department or its agent that includes the following:

(i) The name, mailing address, e-mail address and telephone number of the CO<sub>2</sub> authorized account representative and any CO<sub>2</sub> authorized alternate account representative.

(ii) The organization name and type of organization.

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

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

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

(v) The signature of the CO<sub>2</sub> authorized account representative and any CO<sub>2</sub> authorized alternate account representative and the dates signed.

(vi) Unless otherwise required by the Department or its agent, documents of agreement referred to in the application for a general account should not be submitted to the Department or its agent. The Department and its

agent are not under any obligation to review or evaluate the sufficiency of any documents of agreement, if submitted.

(2) *Authorization of CO<sub>2</sub> authorized account representative.*

(i) Upon receipt by the Department or its agent of a complete application for a general account under subsection (b)(1), the Department or its agent will establish a general account for the person for whom the application is submitted.

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

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

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

“I am authorized to make this submission on behalf of the persons having an ownership interest with respect to the CO<sub>2</sub> allowances held in the general account. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate and complete. I am aware that there are significant penalties under 18 Pa.C.S. § 4904 for submitting false statements and information or omitting required statements and information.”

(v) The Department or its agent will accept or act on a submission concerning the general account only if the submission has been made, signed and certified in accordance with subsection (b)(2)(iv).

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

(i) The CO<sub>2</sub> authorized account representative or the CO<sub>2</sub> authorized alternate account representative for a general account may be changed at any time upon receipt by the Department or its agent of a superseding complete application for a general account under subsection (b)(1). Notwithstanding a change, the representations, actions, inactions and submissions by the previous CO<sub>2</sub> authorized account representative, or the previous CO<sub>2</sub> autho-

rized alternate account representative, prior to the time and date when the Department or its agent receives the superseding application for a general account shall be binding on the new CO<sub>2</sub> authorized account representative or the new CO<sub>2</sub> authorized alternate account representative and the persons with an ownership interest with respect to the CO<sub>2</sub> allowances in the general account.

(ii) A revision of ownership listing shall include the following:

(A) If a new person having an ownership interest with respect to CO<sub>2</sub> allowances in the general account is not included in the list of persons in the application for a general account, the new person shall be deemed to be subject to and bound by the application for a general account, the representations, actions, inactions and submissions of the CO<sub>2</sub> authorized account representative and any CO<sub>2</sub> authorized alternate account representative, and the decisions, orders, actions and inactions of the Department or its agent, as if the new person were included in the list.

(B) Within 30 days following any change in the persons having an ownership interest with respect to CO<sub>2</sub> allowances in the general account, including the addition or deletion of persons, the CO<sub>2</sub> authorized account representative or any CO<sub>2</sub> authorized alternate account representative shall submit a revision to the application for a general account amending the list of persons having an ownership interest with respect to the CO<sub>2</sub> allowances in the general account to include the change.

(4) *Objections concerning CO<sub>2</sub> authorized account representative.*

(i) Once a complete application for a general account under subsection (b)(1) has been submitted and received, the Department or its agent will rely on the application until a superseding complete application for a general account under subsection (b)(3)(i) is received by the Department or its agent.

(ii) Except as provided in subsections (b)(3)(i) and (ii), no objection or other communication submitted to the Department or its agent concerning the authorization, or any representation, action, inaction or submission of the CO<sub>2</sub> authorized account representative or any CO<sub>2</sub> authorized alternate account representative for a general account will affect any representation, action, inaction or submission of the CO<sub>2</sub> authorized account representative or any CO<sub>2</sub> authorized alternate account representative or the finality of any decision or order by the Department or its agent under the CO<sub>2</sub> Budget Trading Program.

(iii) The Department or its agent will not adjudicate a private legal dispute concerning the authorization or any representation, action, inaction or submission of the CO<sub>2</sub> authorized account representative or any CO<sub>2</sub> authorized alternate account representative for a general account, including private legal disputes concerning the proceeds of CO<sub>2</sub> allowance transfers.

(5) *Delegation by CO<sub>2</sub> authorized account representative and CO<sub>2</sub> authorized alternate account representative.*

(i) A CO<sub>2</sub> authorized account representative or a CO<sub>2</sub> authorized alternate account representative may delegate, to one or more persons, their authority to make an electronic submission to the Department or its agent under § 145.361 (relating to submission of CO<sub>2</sub> allowance transfers).

(ii) To delegate authority to make an electronic submission to the Department or its agent in accordance with

subsection (b)(5)(1), the CO<sub>2</sub> authorized account representative or CO<sub>2</sub> authorized alternate account representative must submit to the Department or its agent a notice of delegation, in a format prescribed by the Department that includes the following:

(A) The name, address, e-mail address and telephone number of the CO<sub>2</sub> authorized account representative or CO<sub>2</sub> authorized alternate account representative.

(B) The name, address, e-mail address and telephone number of each electronic submission agent.

(C) For each electronic submission agent, a list of the type of electronic submissions under subsection (b)(5)(1) for which authority is delegated.

(D) The following certification statements by the delegating CO<sub>2</sub> authorized account representative or CO<sub>2</sub> authorized alternate account representative:

(I) "I agree that any electronic submission to the Department or its agent that is by an electronic submission agent identified in this notice of delegation and of a type listed for the electronic submission agent in this notice of delegation and that is made when I am a CO<sub>2</sub> authorized account representative or CO<sub>2</sub> authorized alternate account representative before this notice of delegation is superseded by another notice of delegation under 25 Pa. Code § 145.352(b)(5)(ii) shall be deemed to be an electronic submission by me."

(II) "Until this notice of delegation is superseded by another notice of delegation under 25 Pa. Code § 145.352(b)(5)(ii), I agree to maintain an e-mail account and to notify the Department or its agent immediately of any change in my e-mail address unless all delegation authority by me under subparagraph (b)(5)(ii) is terminated."

(iii) A notice of delegation submitted under subsection (b)(5)(ii) shall be effective, with regard to the delegating CO<sub>2</sub> authorized account representative or CO<sub>2</sub> authorized alternate account representative identified in the notice, upon receipt of the notice by the Department or its agent and until receipt by the Department or its agent of a superseding notice of delegation by the CO<sub>2</sub> authorized account representative or CO<sub>2</sub> authorized alternate account representative. 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.

(iv) Any electronic submission covered by the certification in subsection (b)(5)(ii)(D) and made in accordance with a notice of delegation effective under subsection (b)(5)(ii) shall be deemed to be an electronic submission by the CO<sub>2</sub> authorized account representative or CO<sub>2</sub> authorized alternate account representative submitting the notice of delegation.

(c) *Account identification.* The Department or its agent will assign a unique identifying number to each account established under subsection (a) or subsection (b).

**§ 145.353. COATS responsibilities of CO<sub>2</sub> authorized account representative and CO<sub>2</sub> authorized alternate account representative.**

Following the establishment of a COATS account, the submissions to the Department or its agent pertaining to the account, including submissions concerning the deduction or transfer of CO<sub>2</sub> allowances in the account, shall be made only by the CO<sub>2</sub> authorized account representative or CO<sub>2</sub> authorized alternate account representative for the account.



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

(a) By January 1 of each calendar year, the Department or its agent will record the CO<sub>2</sub> allowances allocated for the air pollution reduction account under § 145.342(a) (relating to CO<sub>2</sub> allowance allocations).

(b) By January 1 of each calendar year, the Department or its agent will record the CO<sub>2</sub> allowances allocated for the waste coal set-aside account under § 145.342(b)(1), for the strategic use set-aside account under § 145.342(b)(2) and for the cogeneration set-aside account under § 145.342(b)(3) for the year after the last year for which CO<sub>2</sub> allowances were previously allocated to the set-aside account.

(c) The Department or its agent will assign each CO<sub>2</sub> allowance a serial number that will include digits identifying the year for which the CO<sub>2</sub> allowance is allocated.

**§ 145.355. Compliance.**

(a) *Allowances available for compliance deduction.* The CO<sub>2</sub> allowances are available to be deducted for compliance with the CO<sub>2</sub> requirements under § 145.306(c) (relating to standard requirements) for a control period or an interim control period only if the CO<sub>2</sub> allowances meet the following:

(1) The CO<sub>2</sub> allowances, other than CO<sub>2</sub> offset allowances, are allocated for a prior control period, the same control period or the interim control period for which the allowances will be deducted.

(2) The CO<sub>2</sub> allowances are held in the CO<sub>2</sub> budget source's compliance account as of the CO<sub>2</sub> allowance transfer deadline for that control period or the interim control period or are transferred into the compliance account by a CO<sub>2</sub> allowance transfer correctly submitted for recordation under § 145.361 (relating to submission of CO<sub>2</sub> allowance transfers) by the CO<sub>2</sub> allowance transfer deadline for that control period or the interim control period.

(3) For CO<sub>2</sub> offset allowances, the number of CO<sub>2</sub> offset allowances available to be deducted in order for a CO<sub>2</sub> budget source to comply with the CO<sub>2</sub> requirements under § 145.306(c) for a control period or an interim control period may not exceed 3.3% of the CO<sub>2</sub> budget source's CO<sub>2</sub> emissions for that control period or 3.3% of 0.50 times the CO<sub>2</sub> budget source's CO<sub>2</sub> emissions for an interim control period, as determined in accordance with §§ 145.351—145.358 (relating to CO<sub>2</sub> allowance tracking system) and 145.371—145.377 (relating to monitoring, reporting and recordkeeping requirements).

(4) The CO<sub>2</sub> allowances are not necessary for deductions for excess emissions for a prior control period under subsection (d).

(b) *Deductions for compliance.* Following the recordation, in accordance with § 145.362 (relating to recordation), of CO<sub>2</sub> allowance transfers submitted for recordation in the CO<sub>2</sub> budget source's compliance account by the CO<sub>2</sub> allowance transfer deadline for a control period or interim control period, the Department or its agent will deduct CO<sub>2</sub> allowances available under subsection (a) to cover the source's CO<sub>2</sub> emissions for the control period or interim control period, as follows:

(1) Until the amount of CO<sub>2</sub> allowances deducted equals the number of tons of total CO<sub>2</sub> emissions, or 0.50 times the number of tons of total CO<sub>2</sub> emissions for an interim control period, less any CO<sub>2</sub> emissions attributable to the burning of eligible biomass, determined in

accordance with §§ 145.371—145.377, from all CO<sub>2</sub> budget units at the CO<sub>2</sub> budget source for the control period or interim control period.

(2) Until there are no more CO<sub>2</sub> allowances remaining in the compliance account that are available to be deducted under subsection (a), if there are insufficient CO<sub>2</sub> allowances to complete the deductions in subsection (b)(1).

(c) *Allowance identification.*

(1) The CO<sub>2</sub> authorized account representative for a CO<sub>2</sub> budget source's compliance account may identify by serial number the CO<sub>2</sub> allowances to be deducted from the compliance account for emissions or excess emissions for a control period or an interim control period in accordance with subsection (b) or subsection (d). The identification shall be made in the compliance certification report submitted in accordance with § 145.331 (relating to compliance certification report).

(2) The Department or its agent will deduct CO<sub>2</sub> allowances for a control period or an interim control period from the CO<sub>2</sub> budget source's compliance account, in the absence of an identification or in the case of a partial identification of available CO<sub>2</sub> allowances by serial number under subsection (c)(1), in the following order:

(i) CO<sub>2</sub> offset allowances subject to the relevant compliance deduction limitations under subsection (a)(3) will be deducted in chronological order. In the event that some, but not all, CO<sub>2</sub> offset allowances from a particular allocation year are to be deducted, CO<sub>2</sub> offset allowances will be deducted by serial number, with lower serial number allowances deducted before higher serial number allowances.

(ii) CO<sub>2</sub> allowances, other than CO<sub>2</sub> offset allowances, that are available for deduction under subsection (a) will be deducted in chronological order. In the event that some, but not all, CO<sub>2</sub> allowances from a particular allocation year are to be deducted, CO<sub>2</sub> allowances will be deducted by serial number, with lower serial number allowances deducted before higher serial number allowances.

(d) *Deductions for excess emissions.*

(1) After making the deductions for compliance under subsection (b), the Department or its agent will deduct from the CO<sub>2</sub> budget source's compliance account a number of CO<sub>2</sub> allowances, equal to 3 times the number of the CO<sub>2</sub> budget source's excess emissions.

(2) If the compliance account does not contain sufficient CO<sub>2</sub> allowances to cover 3 times the number of the CO<sub>2</sub> budget source's excess emissions, the CO<sub>2</sub> budget source shall immediately transfer CO<sub>2</sub> allowances into its compliance account in an amount equal to 3 times the number of the CO<sub>2</sub> budget source's excess emissions. No CO<sub>2</sub> offset allowances may be deducted to account for the source's excess emissions.

(3) A CO<sub>2</sub> allowance deduction required under subsection (d)(1) will not affect the liability of the owner or operator of the CO<sub>2</sub> budget source or the CO<sub>2</sub> budget units at the source for any fine, penalty or assessment, or their obligation to comply with any other remedy, for the same violation, as ordered under the Clean Air Act or the act. The following guidelines will be followed by the Department in assessing fines, penalties or other obligations:

(i) For purposes of determining the number of days of violation, if a CO<sub>2</sub> budget source has excess emissions for

a control period or an interim control period, each day in the control period or an interim control period constitutes a day of violation unless the owner or operator of the unit demonstrates that a lesser number of days should be considered.

(ii) Each ton of excess emissions is a separate violation.

(e) *Recordation.* The Department or its agent will record in the appropriate compliance account all deductions from the account under subsections (b)—(d).

(f) *Action by the Department on submissions.*

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

(2) The Department may deduct CO<sub>2</sub> allowances from or transfer CO<sub>2</sub> allowances to a CO<sub>2</sub> budget source's compliance account based on information in the submissions, as adjusted under subsection (f)(1).

#### § 145.356. Banking.

A CO<sub>2</sub> allowance that is held in a compliance account or a general account will remain in the account until the CO<sub>2</sub> allowance is deducted or transferred under § 145.332, § 145.355, § 145.357 or §§ 145.361—145.363.

#### § 145.357. Account error.

The Department or its agent may correct any error in a COATS account. Within 10 business days of making the correction, the Department or its agent will notify the CO<sub>2</sub> authorized account representative for the account.

#### § 145.358. Closing of general accounts.

(a) The CO<sub>2</sub> authorized account representative of a general account may instruct the Department or its agent to close the account by submitting a statement requesting deletion of the account from COATS and by correctly submitting for recordation under § 145.361 (relating to submission of CO<sub>2</sub> allowance transfers) a CO<sub>2</sub> allowance transfer of all CO<sub>2</sub> allowances in the account to one or more other COATS account.

(b) If a general account shows no activity for 1 year or more and does not contain any CO<sub>2</sub> allowances, the Department or its agent may notify the CO<sub>2</sub> authorized account representative for the account that the account will be closed in COATS following 30 business days after the notice is sent. The Department or its agent will close the account after the 30-day period unless before the end of the 30-day period the Department or its agent receives a correctly submitted transfer of CO<sub>2</sub> allowances into the account under § 145.361 or a statement submitted by the CO<sub>2</sub> authorized account representative requesting that the account should not be closed. The Department or its agent will have sole discretion to determine if the owner or operator of the unit demonstrated that the account should not be closed.

### CO<sub>2</sub> ALLOWANCE TRANSFERS

Sec.

145.361 Submission of CO<sub>2</sub> allowance transfers.

145.362 Recordation.

145.363 Notification.

#### § 145.361. Submission of CO<sub>2</sub> allowance transfers.

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

(1) The numbers identifying the accounts of the transferor and transferee.

(2) A specification by serial number of each CO<sub>2</sub> allowance to be transferred.

(3) The printed name and signature of the CO<sub>2</sub> 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<sub>2</sub> allowance, if any.

(5) The purchase or sale price of the CO<sub>2</sub> allowance that is the subject of a sale or purchase transaction under paragraph (4).

#### § 145.362. Recordation.

(a) Within 5 business days of receiving a CO<sub>2</sub> allowance transfer, except as provided in subsection (b), the Department or its agent will record a CO<sub>2</sub> allowance transfer by moving each CO<sub>2</sub> allowance from the account of the transferor to the account of the transferee as specified by the request, if the following are met:

(1) The transfer is correctly submitted under § 145.361 (relating to submission of CO<sub>2</sub> allowance transfers).

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

(b) A CO<sub>2</sub> allowance transfer into or out of a compliance account that is submitted for recordation following the CO<sub>2</sub> allowance transfer deadline and that includes any CO<sub>2</sub> allowance allocated for a control period or interim control period prior to or the same as the control period or interim control period to which the CO<sub>2</sub> allowance transfer deadline applies will not be recorded until after completion of the process in § 145.355(b) (relating to compliance).

(c) A CO<sub>2</sub> allowance transfer submitted for recordation that fails to meet the requirements of subsection (a) will not be recorded.

#### § 145.363. Notification.

(a) *Notification of recordation.* Within 5 business days of recordation of a CO<sub>2</sub> allowance transfer under § 145.362 (relating to recordation), the Department or its agent will notify each party to the transfer. Notice will be given to the CO<sub>2</sub> authorized account representative of the account of the transferor and the CO<sub>2</sub> authorized account representative of the account of the transferee.

(b) *Notification of non-recordation.* Within 10 business days of receipt of a CO<sub>2</sub> allowance transfer that fails to meet the requirements of § 145.362(a), the Department or its agent will notify the CO<sub>2</sub> authorized account representative of the account of the transferor and the CO<sub>2</sub> authorized account representative of the account of the transferee of the following:

(1) A decision not to record the transfer.

(2) The reasons for the non-recordation.

(c) *Resubmission.* Nothing in this section precludes the resubmission of a CO<sub>2</sub> allowance transfer for recordation following notification under subsection (b).

### MONITORING, REPORTING AND RECORDKEEPING REQUIREMENTS

Sec.

145.371 General monitoring requirements.

145.372 Initial certification and recertification procedures.

145.373 Out-of-control periods.

145.374 Notifications.

145.375 Recordkeeping and reporting.

145.376 Petitions.

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

### § 145.371. General monitoring requirements.

The owner or operator, and to the extent applicable, the CO<sub>2</sub> authorized account representative of a CO<sub>2</sub> budget unit, shall comply with the monitoring, recordkeeping and reporting requirements as provided in this section and §§ 145.372—145.377 and all applicable sections of 40 CFR Part 75 (relating to continuous emission monitoring). Where referenced in §§ 145.371—145.377 (relating to monitoring, reporting and recordkeeping requirements), the monitoring requirements of 40 CFR Part 75 shall be adhered to in a manner consistent with the purpose of monitoring and reporting CO<sub>2</sub> mass emissions under this subchapter. For purposes of complying with these requirements, the definitions in § 145.302 (relating to definitions) and in 40 CFR 72.2 (relating to definitions) apply, and the terms “affected unit,” “designated representative” and “continuous emissions monitoring system” in 40 CFR Part 75 shall be replaced by the terms “CO<sub>2</sub> budget unit,” “CO<sub>2</sub> authorized account representative” and “continuous emissions monitoring system,” respectively, as defined in § 145.302. For units not subject to an acid rain emissions limitation, the term “Administrator” in 40 CFR Part 75 shall be replaced with “the Administrator, Department or its agent.” The owner or operator of a CO<sub>2</sub> budget unit who monitors a unit that is not a CO<sub>2</sub> budget unit pursuant to the common, multiple or bypass stack procedures in 40 CFR 75.72(b)(2)(ii) (relating to determination of NO<sub>x</sub> mass emissions for common stack and multiple stack configurations) or 40 CFR 75.16(b)(2)(ii)(B) (relating to special provisions for monitoring emissions from common, bypass, and multiple stacks for SO<sub>2</sub> emissions and heat input determinations) as pursuant to 40 CFR 75.13 (relating to specific provisions for monitoring CO<sub>2</sub> emissions) for purposes of complying with this subchapter, shall monitor and report CO<sub>2</sub> mass emissions from a unit that is not a CO<sub>2</sub> budget unit in accordance with the monitoring, reporting and recordkeeping requirements for a CO<sub>2</sub> budget unit under §§ 145.371—145.377.

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

(i) Install all monitoring systems necessary to monitor CO<sub>2</sub> mass emissions in accordance with 40 CFR Part 75, except for equation G-1. This includes all systems required to monitor CO<sub>2</sub> concentration, stack gas flow rate, O<sub>2</sub> concentration, heat input and fuel flow rate, in accordance with 40 CFR Part 75, Subpart H (relating to NO<sub>x</sub> mass emissions provisions).

(ii) Successfully complete all certification tests required under § 145.372 (relating to initial certification and recertification procedures) and meet all other provisions of this subchapter and 40 CFR Part 75 applicable to the monitoring systems under paragraph (1)(i).

(iii) Record, report and quality-assure the data from the monitoring systems under paragraph (1)(i).

(2) *Compliance dates.* The owner or operator of a CO<sub>2</sub> budget unit shall meet the monitoring system certification and other requirements of paragraph (1) and shall record, report and quality-assure data from the monitoring systems under paragraph (1)(i) according to the following schedule:

(i) Except for a CO<sub>2</sub> budget unit under paragraph (2)(ii), a CO<sub>2</sub> budget unit that commences commercial operation before July 1, 2021, shall comply with this section and §§ 145.372—145.377 by January 1, 2022.

(ii) A CO<sub>2</sub> budget unit that commences commercial operation on or after July 1, 2021, shall comply with the

requirements of this section and §§ 145.372—145.377 by the later of the following dates:

(A) January 1, 2022.

(B) The earlier of:

(I) 90-unit operating days after the date on which the unit commences commercial operation.

(II) 180 calendar days after the date on which the unit commences commercial operation.

(iii) The owner or operator of a CO<sub>2</sub> budget unit for which construction of a new stack or flue installation is completed after the applicable deadline under paragraph (2)(i) or (2)(ii) by the earlier of:

(A) 90-unit operating days after the date on which emissions first exit to the atmosphere through the new stack or flue.

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

(3) *Reporting data.*

(i) Except as provided in paragraph (3)(ii), the owner or operator of a CO<sub>2</sub> budget unit that does not meet the applicable compliance date set forth in paragraph (2) for any monitoring system under paragraph (1)(i) shall, for each monitoring system, determine, record and report maximum potential, or as appropriate minimum potential, values for CO<sub>2</sub> concentration, CO<sub>2</sub> emissions rate, stack gas moisture content, fuel flow rate, heat input and any other parameter required to determine CO<sub>2</sub> mass emissions under 40 CFR 75.31(b)(2) or 40 CFR 75.31(c)(3) (relating to initial missing data procedures), or 40 CFR Part 75, Appendix D, Section 2.4 (relating to optional SO<sub>2</sub> emissions data protocol for gas-fired and oil-fired units), as applicable.

(ii) The owner or operator of a CO<sub>2</sub> budget unit that does not meet the applicable compliance date set forth in paragraph (2)(iii) for any monitoring system under paragraph (1)(i) shall, for each monitoring system, determine, record and report substitute data using the applicable missing data procedures in 40 CFR Part 75, Subpart D (relating to missing data substitution procedures) or Appendix D, instead of the maximum potential, or as appropriate minimum potential, values for a parameter if the owner or operator demonstrates that there is continuity between the data streams for that parameter before and after the construction or installation under paragraph (2)(iii).

(A) A CO<sub>2</sub> budget unit subject to an acid rain emissions limitation that qualifies for the optional SO<sub>2</sub>, NO<sub>x</sub> and CO<sub>2</sub> emissions calculations for low mass emissions (LME) units under 40 CFR 75.19 (relating to optional SO<sub>2</sub>, NO<sub>x</sub>, and CO<sub>2</sub> emissions calculation for low mass emissions (LME) units) and report emissions for the acid rain program using the calculations under 40 CFR 75.19, shall also use the CO<sub>2</sub> emissions calculations for LME units under 40 CFR 75.19 for purposes of compliance with this subchapter.

(B) A CO<sub>2</sub> budget unit subject to an acid rain emissions limitation that does not qualify for the optional SO<sub>2</sub>, NO<sub>x</sub> and CO<sub>2</sub> emissions calculations for LME units under 40 CFR 75.19, shall not use the CO<sub>2</sub> emissions calculations for LME units under 40 CFR 75.19 for purposes of compliance with this subchapter.

(C) A CO<sub>2</sub> budget unit not subject to an acid rain emissions limitation shall qualify for the optional CO<sub>2</sub>



emissions calculation for LME units under 40 CFR 75.19, if the unit emits less than 100 tons of NO<sub>x</sub> annually and no more than 25 tons of SO<sub>2</sub> annually.

(4) *Prohibitions.*

(i) An owner or operator of a CO<sub>2</sub> budget unit may not use an alternative monitoring system, alternative reference method or another alternative for the required CEMS without having obtained prior written approval in accordance with § 145.376 (relating to petitions).

(ii) An owner or operator of a CO<sub>2</sub> budget unit may not operate the unit so as to discharge, or allow to be discharged, CO<sub>2</sub> emissions to the atmosphere without accounting for the emissions in accordance with the applicable provisions of this subchapter and 40 CFR Part 75.

(iii) An owner or operator of a CO<sub>2</sub> budget unit may not disrupt the CEMS, a portion thereof or another approved emissions monitoring method, and thereby avoid monitoring and recording CO<sub>2</sub> mass emissions discharged into the atmosphere, except for periods of recertification or periods when calibration, quality assurance testing or maintenance is performed in accordance with the applicable provisions of this subchapter and 40 CFR Part 75.

(iv) An owner or operator of a CO<sub>2</sub> budget unit may not retire or permanently discontinue use of the CEMS, any component thereof or another approved emissions monitoring system under this subchapter, except under one of the following circumstances:

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

(B) The CO<sub>2</sub> authorized account representative submits notification of the date of certification testing of a replacement monitoring system in accordance with § 145.372(d)(3)(i) (relating to initial certification and recertification procedures).

**§ 145.372. Initial certification and recertification procedures.**

(a) *Exemption.* The owner or operator of a CO<sub>2</sub> budget unit shall be exempt from the initial certification requirements for a monitoring system under § 145.371(1)(i) (relating to general monitoring requirements) if the following conditions are met:

(1) The monitoring system has been previously certified in accordance with 40 CFR Part 75 (relating to continuous emission monitoring).

(2) The applicable quality-assurance and quality-control requirements of 40 CFR 75.21 (relating to quality assurance and quality control requirements) and 40 CFR Part 75, Appendix B (relating to quality assurance and quality control procedures) and Appendix D (relating to optional SO<sub>2</sub> emissions data protocol for gas-fired and oil-fired units) are fully met for the certified monitoring system described in subsection (a)(1).

(b) *Applicability.* The recertification provisions of this section shall apply to a monitoring system under § 145.371(1)(i) that is exempt from initial certification requirements under subsection (a).

(c) *Petitions.* Notwithstanding subsection (a), if the Administrator approved a petition under 40 CFR

75.72(b)(2)(ii) or 40 CFR 75.16(b)(2)(ii)(B) (relating to determination of NO<sub>x</sub> mass emissions for common stack and multiple stack configurations; and special provisions for monitoring emissions from common, bypass, and multiple stacks for SO<sub>2</sub> emissions and heat input determinations) as pursuant to 40 CFR 75.13 (relating to specific provisions for monitoring CO<sub>2</sub> emissions) for apportioning the CO<sub>2</sub> emissions rate measured in a common stack or a petition under 40 CFR 75.66 (relating to petitions to the administrator) for an alternative requirement in 40 CFR Part 75, the CO<sub>2</sub> authorized account representative shall submit the petition to the Department under § 145.376(a) (relating to petitions) to determine if the approval applies under the CO<sub>2</sub> Budget Trading Program.

(d) *Certification and recertification.* Except as provided in subsection (a), the owner or operator of a CO<sub>2</sub> budget unit shall comply with the initial certification and recertification procedures for a CEMS and an excepted monitoring system under 40 CFR Part 75, Appendix D and under § 145.371(1)(i). The owner or operator of a CO<sub>2</sub> budget unit that qualifies to use the low mass emissions excepted monitoring methodology in 40 CFR 75.19 (relating to optional SO<sub>2</sub>, NO<sub>x</sub>, and CO<sub>2</sub> emissions calculation for low mass emissions (LME) units) or that qualifies to use an alternative monitoring system under 40 CFR Part 75, Subpart E (relating to alternative monitoring systems) shall comply with the procedures in subsection (e) or subsection (f), respectively.

(1) *Requirements for initial certification.* The owner or operator of a CO<sub>2</sub> budget unit shall ensure that each CEMS required under § 145.371(1)(i), including the automated data acquisition and handling system, successfully completes all of the initial certification testing required under 40 CFR 75.20 (relating to initial certification and recertification procedures) by the applicable deadlines specified in § 145.371(2). In addition, whenever the owner or operator installs a monitoring system to meet the requirements of this subchapter in a location where no monitoring system was previously installed, initial certification in accordance with 40 CFR 75.20 is required.

(2) *Requirements for recertification.*

(i) Whenever the owner or operator makes a replacement, modification or change to a certified CEMS under § 145.371(1)(i) that the Administrator or the Department determines significantly affects the ability of the system to accurately measure or record CO<sub>2</sub> mass emissions or to meet the quality-assurance and quality-control requirements of 40 CFR 75.21 or 40 CFR Part 75, Appendix B, the owner or operator shall recertify the monitoring system according to 40 CFR 75.20(b).

(ii) For a system using stack measurements including stack flow, stack moisture content, CO<sub>2</sub> or O<sub>2</sub> monitors, whenever the owner or operator makes a replacement, modification or change to the flue gas handling system or the unit's operation that the Administrator or the Department determines to significantly change the flow or concentration profile, the owner or operator shall recertify the CEMS according to 40 CFR 75.20(b).

(3) *Approval process for initial certification and recertification.*

(i) *Notification of certification.* The CO<sub>2</sub> authorized account representative shall submit to the Department and the appropriate EPA Regional Office a written notice of the dates of certification in accordance with § 145.374 (relating to notifications).

(ii) *Certification application.* The CO<sub>2</sub> authorized account representative shall submit to the Department a

certification application for each monitoring system required under 40 CFR 75.63 (relating to initial certification or recertification application). A complete certification application shall include the information specified in 40 CFR 75.63.

(iii) *Provisional certification data.* The provisional certification date for a monitor shall be determined in accordance with 40 CFR 75.20(a)(3). A provisionally certified monitor may be used under the CO<sub>2</sub> budget Trading Program for a period not to exceed 120 days after receipt by the Department of the complete certification application for the monitoring system or component thereof under subsection (d)(3)(i). 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), if the Department does not invalidate the provisional certification by issuing a notice of disapproval within 120 days of receipt of the complete certification application by the Department.

(iv) *Certification application approval process.* The Department will issue a written notice of approval or disapproval of the certification application to the owner or operator within 120 days of receipt of the complete certification application under subsection (d)(3)(ii). If the Department does not issue the notice within the 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<sub>2</sub> Budget Trading Program.

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

(B) *Incomplete application notice.* If the certification application is not complete, the Department will issue a written notice of incompleteness that sets a date by which the CO<sub>2</sub> authorized account representative must submit the additional information required to complete the certification application. If the CO<sub>2</sub> authorized account representative does not comply with the notice of incompleteness by the specified date, then the Department may issue a notice of disapproval under subsection (d)(3)(iv)(C). The 120-day review period may not begin prior to receipt of a complete certification application.

(C) *Disapproval notice.* If the certification application shows that any monitoring system or component thereof does not meet the performance requirements of 40 CFR Part 75, or if the certification application is incomplete and the requirement for disapproval under subsection (d)(3)(iv)(B) is met, then the Department will issue a written notice of disapproval of the certification application. Upon issuance of the notice of disapproval, the provisional certification is invalidated by the Department and the data measured and recorded by each uncertified monitoring system or component thereof will not be considered valid quality-assured data beginning with the date and hour of provisional certification. The owner or operator shall follow the procedures for loss of certification in subsection (d)(3)(v) for each monitoring system or component thereof which is disapproved for initial certification.

(D) *Audit decertification.* The Department may issue a notice of disapproval of the certification status of a monitor in accordance with § 145.373(b) (relating to out-of-control periods).

(v) *Procedures for loss of certification.* If the Department issues a notice of disapproval of a certification application under subsection (d)(3)(iv)(C) or a notice of disapproval of certification status under subsection (d)(3)(iv)(D), the following apply:

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

(I) For a unit using or intending to monitor for CO<sub>2</sub> mass emissions using heat input or for a unit using the low mass emissions excepted methodology under 40 CFR 75.19, the maximum potential hourly heat input of the unit.

(II) For a unit intending to monitor for CO<sub>2</sub> mass emissions using a CO<sub>2</sub> pollutant concentration monitor and a flow monitor, the maximum potential concentration of CO<sub>2</sub> and the maximum potential flow rate of the unit under 40 CFR Part 75, Appendix A, Section 2.1 (relating to specifications and test procedures).

(B) The CO<sub>2</sub> authorized account representative shall submit a notification of certification retest dates and a new certification application in accordance with subsections (d)(3)(i) and (ii).

(C) 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.

(e) *Initial certification and recertification procedures for low mass emissions units using the excepted methodologies under § 145.371(3)(ii).* The owner or operator of a unit qualified to use the low mass emissions excepted methodology under § 145.371(3)(ii) shall meet the applicable certification and recertification requirements of 40 CFR 75.19(a)(2), 40 CFR 75.20(h) and this section. If the owner or operator of the 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).

(f) *Certification and recertification procedures for an alternative monitoring system.* The CO<sub>2</sub> 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 40 CFR Part 75, Subpart E shall comply with the applicable notification and application procedures of 40 CFR 75.20(f).

#### § 145.373. Out-of-control periods.

(a) *Quality assurance requirements.* Whenever a monitoring system fails to meet the quality assurance and quality control requirements or data validation requirements of 40 CFR Part 75 (relating to continuous emission monitoring), data shall be substituted using the applicable procedures in 40 CFR Part 75, Subpart D (relating to missing data substitution procedures) or Appendix D (relating to optional SO<sub>2</sub> emissions data protocol for gas-fired and oil-fired units).

(b) *Audit decertification.* Whenever both an audit of a monitoring system and a review of the initial certification or recertification application reveal that any monitoring system should not have been certified or recertified

because it did not meet a particular performance specification or other requirement under § 145.372 (relating to initial certification and recertification procedures) 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 will issue a notice of disapproval of the certification status of the monitoring system. For the purposes of this paragraph, an audit shall be either a field audit or an audit of any information submitted to the Department or the Administrator. By issuing the notice of disapproval, the Department revokes prospectively the certification status of the monitoring system. The data measured and recorded by the monitoring system will 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 § 145.372 for each disapproved monitoring system.

#### § 145.374. Notifications.

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

#### § 145.375. Recordkeeping and reporting.

(a) *General provisions.* The CO<sub>2</sub> authorized account representative shall comply with the recordkeeping and reporting requirements in this section, the applicable recordkeeping and reporting requirements under 40 CFR 75.73 (relating to recordkeeping and reporting) and with the requirements of § 145.311(e) (relating to authorization and responsibilities of the CO<sub>2</sub> authorized account representative).

(b) *Monitoring plans.* The owner or operator of a CO<sub>2</sub> budget unit shall submit a monitoring plan in the manner prescribed in 40 CFR 75.62 (relating to monitoring plan submittals).

(c) *Certification applications.* The CO<sub>2</sub> authorized account representative shall submit an application to the Department within 45 days after completing all CO<sub>2</sub> monitoring system initial certification or recertification tests required under § 145.372 (relating to initial certification and recertification procedures) including the information required under 40 CFR 75.63 (relating to initial certification or recertification application) and 40 CFR 75.53(g) and (h) (relating to monitoring plan).

(d) *Quarterly reports.* The CO<sub>2</sub> authorized account representative shall submit quarterly reports, as follows:

(1) The CO<sub>2</sub> mass emissions data for the CO<sub>2</sub> budget unit, in an electronic format prescribed by the Administrator unless otherwise prescribed by the Administrator or the Department for each calendar quarter beginning with one of the following:

(i) For a unit that commenced commercial operation before January 1, 2022, the calendar quarter covering January 1, 2022, through March 31, 2022.

(ii) For a unit that commenced commercial operation on or after January 1, 2022, the calendar quarter corresponding to, the earlier of the date of provisional certification or the applicable deadline for initial certification under § 145.371(2) (relating to general monitoring requirements).

(2) The CO<sub>2</sub> authorized account representative shall submit each quarterly report to the Administrator and the Department or its agent within 30 days following the end of the calendar quarter covered by the report. Quarterly reports shall be submitted in the manner specified in 40 CFR Part 75, Subpart H (relating to NO<sub>x</sub> mass emissions provisions) and 40 CFR 75.64 (relating to quarterly reports).

(i) Quarterly reports shall be submitted for each CO<sub>2</sub> budget unit, or group of units using a common stack, and shall include all the data and information required in 40 CFR Part 75, Subpart G (relating to reporting requirements) except for opacity, heat input, NO<sub>x</sub> and SO<sub>2</sub> provisions.

(3) The CO<sub>2</sub> authorized account representative shall submit to the Administrator or 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 the unit's emissions are correctly and fully monitored. The certification shall state that the following conditions have been met:

(i) The monitoring data submitted were recorded in accordance with the applicable requirements of this subchapter and 40 CFR Part 75 (relating to continuous emission monitoring), including the quality assurance procedures and specifications.

(ii) For a unit with add-on CO<sub>2</sub> emissions controls and for all hours where data are substituted in accordance with 40 CFR 75.34(a)(1) (relating to units with add-on emission controls), the add-on emissions controls were operating within the range of parameters listed in the quality assurance/quality control program under 40 CFR Part 75, Appendix B (relating to quality assurance and quality control procedures) and the substitute values do not systematically underestimate CO<sub>2</sub> emissions.

(iii) The CO<sub>2</sub> concentration values substituted for missing data under 40 CFR Part 75, Subpart D (relating to missing data substitution procedures) do not systematically underestimate CO<sub>2</sub> emissions.

#### § 145.376. Petitions.

(a) Except as provided in subsection (c), the CO<sub>2</sub> authorized account representative of a CO<sub>2</sub> budget unit that is subject to an acid rain emissions limitation may submit a petition to the Administrator under 40 CFR 75.66 (relating to petitions to the administrator) and to the Department requesting approval to apply an alternative to any requirement of 40 CFR Part 75 (relating to continuous emission monitoring).

(b) 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<sub>2</sub> authorized account representative of a CO<sub>2</sub> budget unit that is not subject to an acid rain emissions limitation may submit a petition to the Administrator under 40 CFR 75.66 and to the Department requesting approval to apply an alternative to any requirement of 40 CFR 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.

(d) In the event that the Administrator declines to review a petition under subsection (c), the CO<sub>2</sub> authorized account representative of a CO<sub>2</sub> budget unit that is not



subject to an acid rain emissions limitation may submit a petition to the Department requesting approval to apply an alternative to any requirement of §§ 145.371—145.377 (relating to monitoring, reporting and recordkeeping requirements)). That petition shall contain all of the relevant information specified in 40 CFR 75.66. Application of an alternative to any requirement of §§ 145.371—145.377 is in accordance with §§ 145.371—145.377 only to the extent that the petition is approved in writing by the Department.

(e) The CO<sub>2</sub> authorized account representative of a CO<sub>2</sub> budget unit that is subject to an acid rain emissions limitation may submit a petition to the Administrator under 40 CFR 75.66 and to the Department requesting approval to apply an alternative to a requirement concerning any additional CEMS required under the common stack provisions of 40 CFR 75.72 (relating to determination of NO<sub>x</sub> mass emissions for common stack and multiple stack configurations) or a CO<sub>2</sub> concentration CEMS used under 40 CFR 75.71(a)(2) (relating to specific provisions for monitoring NO<sub>x</sub> and heat input for the purpose of calculating NO<sub>x</sub> mass emissions). Application of an alternative to any requirement is in accordance with §§ 145.371—145.377 only to the extent the petition is approved in writing by the Administrator and subsequently approved in writing by the Department.

**§ 145.377. CO<sub>2</sub> budget units that co-fire eligible biomass.**

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

(1) For each shipment of solid eligible biomass fuel fired at the CO<sub>2</sub> budget unit:

(i) The total eligible biomass fuel input, on an as-fired basis, in pounds.

(ii) The moisture content, on an as-fired basis, as a fraction by weight.

(2) For each distinct type of gaseous eligible biomass fuel fired at the CO<sub>2</sub> budget unit:

(i) The density of the biogas, on an as-fired basis, in pounds per standard cubic foot.

(ii) The moisture content of the biogas, on an as-fired basis, as a fraction by total weight.

(iii) The total eligible biomass fuel input, in standard cubic feet.

(3) For each distinct type of eligible biomass fuel fired at the CO<sub>2</sub> budget unit:

(i) The dry basis carbon content of the fuel type, as a fraction by dry weight.

(ii) The dry basis higher heating value, in MMBtu per dry pound.

(iii) The total dry basis eligible biomass fuel input, in pounds, calculated in accordance with subsection (b).

(iv) The total eligible biomass fuel heat input, in MMBtu, calculated in accordance with subsection (d)(1).

(v) A chemical analysis, including heating value and carbon content.

(4) The total amount of CO<sub>2</sub> emitted from the CO<sub>2</sub> budget unit due to firing eligible biomass fuel, in tons, calculated in accordance with subsection (c).

(5) The total amount of heat input to the CO<sub>2</sub> budget unit due to firing eligible biomass fuel, in MMBtu, calculated in accordance with subsection (d)(2).

(6) A description and documentation of the monitoring technology employed, and a description and documentation of the fuel sampling methodology employed, including sampling frequency and carbon ash testing.

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

(1) For solid fuel types:

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

Where:

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

F<sub>i</sub> = Eligible biomass as fired fuel input (lbs) for fired shipment i.

M<sub>i</sub> = Moisture content (fraction) for fired shipment i.

i = Fired fuel shipment.

j = Fuel type.

m = Number of shipments.

(2) For gaseous fuel types:

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

Where:

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

D<sub>j</sub> = Density of biogas (lbs/scf) for fuel type j.

V<sub>j</sub> = Total volume (scf) for fuel type j.

M<sub>j</sub> = Moisture content (fraction) for fuel type j.

j = Fuel type.

(c) CO<sub>2</sub> 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 combusted at the CO<sub>2</sub> budget unit, as measured and recorded in accordance with §§ 145.371—145.376 (relating to monitoring, reporting and recordkeeping requirements) or for any full calendar quarter during which fuels other than eligible biomass are combusted at the CO<sub>2</sub> budget unit, as determined using the following equation:

$$CO_2 \text{ tons} = \sum_{j=1}^n F_j \times C_j \times O_j \times \frac{44}{12} \times 0.0005$$

Where:

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

F<sub>j</sub> = Total eligible biomass dry basis fuel input (lbs) for fuel type j, as calculated in subsection (b).

C<sub>j</sub> = Carbon fraction (dry basis) for fuel type j.

O<sub>j</sub> = 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 under subsection (a)(3)(v); 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 1 ton of carbon is combusted.

0.0005 = The number of short tons which is equal to 1 pound.

j = Fuel type.

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<sub>j</sub> = Heat input (MMBtu) for fuel type j.

F<sub>j</sub> = Total eligible biomass dry basis fuel input (lbs) for fuel type j, as calculated in subsection (b).

HHV<sub>j</sub> = Higher heating value (MMBtu/lb), dry basis, for fuel type j, as determined through chemical analysis.

j = Fuel type.

(2) For all fuel types:

$$\text{Heat input MMBtu} = \sum_{i=1}^n H_j$$

Where:

H<sub>j</sub> = Heat input (MMBtu) for fuel type j.

j = Fuel type.

n = Number of distinct fuel types.

**AUCTION OF CO<sub>2</sub> CCR AND ECR ALLOWANCES**

Sec.

145.381. Purpose.

145.382. General requirements.

**§ 145.381. Purpose.**

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

**§ 145.382. General requirements.**

(a) In the auction notice for each auction, the Department or its agent shall include the following:

(1) The number of CO<sub>2</sub> allowances offered for sale at the auction, not including any CO<sub>2</sub> CCR allowances.

(2) The number of CO<sub>2</sub> CCR allowances that will be offered for sale at the auction if the condition in subsection (b)(1) is met.

(3) The minimum reserve price for the auction.

(4) *The CCR trigger price for the auction.* The CCR trigger price in calendar year 2022 shall be \$13.91. Each calendar year after 2022, the CCR trigger price shall be 1.07 multiplied by the CCR trigger price from the previous calendar year, rounded to the nearest whole cent, as shown in Table 1.

**Table 1. CO<sub>2</sub> CCR Trigger Price**

2023	2024	2025	2026	2027	2028	2029	2030
\$14.88	\$15.92	\$17.03	\$18.22	\$19.50	\$20.87	\$22.33	\$23.89

(5) The maximum number of CO<sub>2</sub> allowances that may be withheld from sale at the auction if the condition in subsection (d)(1) is met.

(6) *The ECR trigger price for the auction.* The ECR trigger price in calendar year 2022 shall be \$6.42. Each calendar year after 2022, the ECR trigger price shall be 1.07 multiplied by the ECR trigger price from the previous calendar year, rounded to the nearest whole cent, as shown in Table 2.

**Table 2. CO<sub>2</sub> ECR Trigger Price**

2023	2024	2025	2026	2027	2028	2029	2030
\$ 6.87	\$ 7.35	\$ 7.86	\$ 8.41	\$ 9.00	\$ 9.63	\$10.30	\$11.02

(b) For the sale of CO<sub>2</sub> CCR allowances, the Department or its agent will do the following:

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

(2) If the condition in subsection (b)(1) is met at an auction, then the number of CO<sub>2</sub> CCR allowances offered for sale by the Department or its agent at the auction will be equal to the number of CO<sub>2</sub> CCR allowances in the air pollution reduction account at the time of the auction.

(3) After all of the CO<sub>2</sub> CCR allowances in the air pollution reduction account have been sold in a given calendar year, no additional CO<sub>2</sub> CCR allowances will be sold at any auction for the remainder of that calendar year, even if the condition in subsection (b)(1) is met at an auction.

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

(5) If the condition in subsection (b)(1) is not satisfied, no CO<sub>2</sub> CCR allowances will be offered for sale at the auction and the reserve price for the auction will be equal to the minimum reserve price.

(c) The Department or its agent will implement the reserve price in the following manner:

(1) No CO<sub>2</sub> allowances will be sold at any auction for a price below the reserve price for that auction.

(2) If the total demand for CO<sub>2</sub> allowances at an auction is less than or equal to the total number of CO<sub>2</sub> allowances made available for sale in that auction, then the auction clearing price for the auction shall be the reserve price.

(d) For the withholding of CO<sub>2</sub> ECR allowances from an auction, the Department or its agent will do the following:

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

(2) If the condition in subsection (d)(1) is met at an auction, then the maximum number of CO<sub>2</sub> ECR allowances that may be withheld from that auction will be equal to the quantity in § 145.342(e)(1) (relating to CO<sub>2</sub> allowance allocations) minus the total quantity of CO<sub>2</sub> ECR allowances that have been withheld from any prior auction in that calendar year. The Department will transfer any CO<sub>2</sub> ECR allowances withheld from an auction into the Pennsylvania ECR Account.

**CO<sub>2</sub> EMISSIONS OFFSET PROJECTS**

- Sec. 145.391. Purpose.
- 145.392. Definitions.
- 145.393. General requirements.
- 145.394. Application process.
- 145.395. CO<sub>2</sub> emissions offset project standards.
- 145.396. Accreditation of independent verifiers.
- 145.397. Award and recordation of CO<sub>2</sub> offset allowances.

**§ 145.391. Purpose.**

The Department may award CO<sub>2</sub> offset allowances to sponsors of CO<sub>2</sub> emissions offset projects that have reduced or avoided atmospheric loading of CO<sub>2</sub>, CO<sub>2</sub>e or sequestered carbon as demonstrated in accordance with the applicable provisions of §§ 145.391—145.397 (relating to CO<sub>2</sub> emissions offset projects). The requirements of §§ 145.391—145.397 seek to ensure that CO<sub>2</sub> offset allowances awarded represent CO<sub>2</sub> equivalent emission reductions or carbon sequestration that are real, additional, verifiable, enforceable and permanent within the framework of a standards-based approach. Subject to the relevant compliance deduction limitations of § 145.355(a)(3) (relating to compliance), CO<sub>2</sub> offset allowances may be used by any CO<sub>2</sub> budget source for compliance purposes.

**§ 145.392. Definitions.**

The following words and terms, when used in §§ 145.391—145.397 (relating to CO<sub>2</sub> emissions offset projects), have the following meanings, unless the context clearly indicates otherwise:

*AEPS—Alternative energy portfolio standards*—Standards establishing that a certain amount of energy sold from alternative energy sources, as defined under section 2 of the Alternative Energy Portfolio Standards Act (73 P.S. § 1648.2), is included as part of the sources of electric generation by electric utilities within this Commonwealth.

*Anaerobic digester*—A device that promotes the decomposition of organic material to simple organics and gaseous biogas products, in the absence of elemental oxygen,

usually accomplished by means of controlling temperature and volume, and that includes a methane recovery system.

*Anaerobic digestion*—The decomposition of organic material including manure brought about through the action of microorganisms in the absence of elemental oxygen.

*Anaerobic storage*—Storage of organic material in an oxygen-free environment, or under oxygen-free conditions, including holding tanks, ponds and lagoons.

*Biogas*—Gas resulting from the decomposition of organic matter under anaerobic conditions, the principle constituents of which are methane and carbon dioxide.

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

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

*Forest offset project data report*—The report prepared by a project sponsor each year that provides the information and documentation required by §§ 145.391—145.397 or the forest offset protocol.

*Forest offset protocol*—The protocol titled “Regional Greenhouse Gas Initiative Offset Protocol U.S. Forest Projects,” published by the participating states on June 12, 2013.

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

*Intentional reversal*—Any reversal caused by a forest owner’s negligence, gross negligence or willful intent, including harvesting, development and harm to the area within the offset project boundary.

*Market penetration rate*—A measure of the diffusion of a technology, product or practice in a defined market, as represented by the percentage of annual sales for a product or practice, or as a percentage of the existing installed stock for a product or category of products, or as the percentage of existing installed stock that utilizes a practice.

*Offset project*—

(i) All equipment, materials, items or actions directly related to the reduction of CO<sub>2</sub>e emissions or the sequestration of carbon specified in a consistency application submitted under § 145.394 (relating to application process).

(ii) This term does not include equipment, materials, items or actions unrelated to an offset project reduction of CO<sub>2</sub>e emissions or the sequestration of carbon but occurring at a location where an offset project occurs, unless specified in § 145.395 (relating to CO<sub>2</sub> emissions offset project standards).

*Project commencement*—

(i) 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 the activity.



(ii) For an offset project that involves the implementation of a management activity or protocol, the date on which the activity is first implemented or the protocol is first utilized.

(iii) For an offset project involving reforestation, improved forest management or avoided conversion, the date specified in section 3.2 of the forest offset protocol.

*Project sponsor*—The sponsor of an offset project under §§ 145.391–145.397.

*Regional-type anaerobic digester*—An anaerobic digester using feedstock from more than one agricultural operation or importing feedstock from more than one agricultural operation.

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

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

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

*Total solids*—The total of all solids in a sample, including the total suspended solids, total dissolved solids and volatile suspended solids.

*Unintentional reversal*—Any reversal, including, wild-fires, insects or disease that is not the result of the forest owner's negligence, gross negligence or willful intent.

*Verification*—The confirmation by an independent verifier that certain parts of a CO<sub>2</sub> emissions offset project consistency application and measurement, monitoring or verification report conforms to the requirements of §§ 145.391–145.397.

*Volatile solids*—The fraction of total solids that is comprised primarily of organic matter as defined in EPA Method Number 160.4, Methods for the Chemical Analysis of Water and Wastes (MCAWW) (EPA/600/4-79/020).

### § 145.393. General requirements.

(a) *Eligibility*. To qualify for the award of CO<sub>2</sub> offset allowances, offset projects shall satisfy all the applicable requirements of §§ 145.391–145.397 (relating to CO<sub>2</sub> emissions offset projects).

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

- (i) Landfill methane capture and destruction.
- (ii) Sequestration of carbon due to reforestation, improved forest management or avoided conversion.
- (iii) Avoided methane emissions from agricultural manure management operations.

(2) *Offset project locations*. To qualify for the award of CO<sub>2</sub> offset allowances, an offset project must be located in:

- (i) This Commonwealth.
- (ii) Partly in this Commonwealth and partly in one or more other participating states, provided that more of the CO<sub>2</sub>e emissions reduction or carbon sequestration due to

the offset project is projected to occur in this Commonwealth than in any other participating state.

(b) *Project sponsor*. Any person may act as the sponsor of an offset project, provided that person meets the requirements under § 145.394 (relating to application process).

(c) *General additionality requirements*. Except as provided under § 145.395 (relating to CO<sub>2</sub> emissions offset project standards), the Department will not award CO<sub>2</sub> offset allowances to an offset project that meets the following:

(1) An offset project that is required under any local, state or Federal law, regulation, or administrative or judicial order. If an offset project receives a consistency determination under § 145.394 and is later required by local, state or Federal law, regulation, or administrative or judicial order, then the offset project will remain eligible for the award of CO<sub>2</sub> offset allowances until the end of its current allocation period but its eligibility will 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<sub>2</sub> offset allowances awarded under § 145.397 (relating to award and recordation of CO<sub>2</sub> offset allowances), generated from the operation of the offset project that may be used for compliance with AEPS or a regulatory requirement, to the Department or its agent.

(3) An offset project that receives funding or other incentives from any system benefit fund or other incentives provided through revenue from the auction or sale of CO<sub>2</sub> allowances in the air pollution reduction account under § 145.342(a) (relating to CO<sub>2</sub> allowance allocations).

(4) An offset project that is awarded credits or allowances under any other mandatory or voluntary greenhouse gas program, except as described in § 145.395(b)(10).

(d) *Maximum allocation periods for offset projects*.

(1) *Maximum allocation periods*. Except as provided in subsection (d)(2), the Department may award CO<sub>2</sub> offset allowances under § 145.397 for an initial 10-year allocation period. At the end of the initial 10-year allocation period, the Department may award CO<sub>2</sub> offset allowances for a second 10-year allocation period, provided the project sponsor has submitted a consistency application under § 145.394 prior to the expiration of the initial allocation period, and the Department has issued a consistency determination under § 145.394(e)(2).

(2) *Maximum allocation period for sequestration of carbon due to reforestation, improved forest management or avoided conversion*. The Department may award CO<sub>2</sub> offset allowances under § 145.397 for any project involving reforestation, improved forest management or avoided conversion for an initial 25-year allocation period. At the end of the initial 25-year allocation period, or any subsequent crediting period, the Department may award CO<sub>2</sub> offset allowances for a subsequent 25-year allocation period, provided the project sponsor has submitted a consistency application for the offset project under § 145.394 prior to the expiration of the initial allocation period, and the Department has issued a consistency determination under § 145.394(e)(2).

(e) *Offset project audit*. A project sponsor shall provide in writing, an access agreement to the Department

granting the Department or its agent access to the physical location of the offset project to inspect for compliance with §§ 145.391—145.397.

(f) *Ineligibility due to noncompliance.*

(1) If at any time the Department determines that a project sponsor has not complied with the requirements of §§ 145.391—145.397, then the Department may revoke and retire any and all CO<sub>2</sub> offset allowances in the project sponsor's account.

(2) If at any time the Department determines that an offset project does not comply with the requirements of §§ 145.391—145.397, then the Department may revoke any approvals it has issued relative to the offset project.

**§ 145.394. Application process.**

(a) *Establishment of general account.* The sponsor of an offset project must establish a general account under § 145.352(b) (relating to establishment of accounts). All submissions to the Department required for the award of CO<sub>2</sub> offset allowances under §§ 145.391—145.397 (relating to CO<sub>2</sub> emissions offset projects) must be from the CO<sub>2</sub> authorized account representative for the general account of the project sponsor.

(b) *Consistency application deadlines.* A consistency application for an offset project shall 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 not involving reforestation, improved forest management or avoided conversion, by the date that is 6 months after the offset project is commenced.

(2) For an offset project involving reforestation, improved forest management or avoided conversion the consistency application, by the date that is one year after the offset project is commenced, except as provided under § 145.395(b)(9) (relating to CO<sub>2</sub> emissions offset project standards).

(3) The Department will deny any consistency application that fails to meet the deadlines in subsection (b).

(c) *Consistency application contents.* For an offset project, the consistency application must include the following:

(1) The project's 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 under § 145.395.

(3) A demonstration that the offset project meets all applicable requirements in §§ 145.391—145.397.

(4) The emissions baseline determination as required by the relevant provisions under § 145.395.

(5) An explanation of how the projected reduction or avoidance of atmospheric loading of CO<sub>2</sub> or CO<sub>2</sub>e or the sequestration of carbon is to be quantified, monitored and verified as required by the relevant provisions under § 145.395.

(6) A completed consistency application agreement signed by the project sponsor that reads as follows:

“The undersigned project sponsor recognizes and accepts that the application for, and the receipt of, CO<sub>2</sub> offset allowances under the CO<sub>2</sub> Budget Trading Program is predicated on the project sponsor following all the requirements of §§ 145.391—145.397. The undersigned

project sponsor holds the legal rights to the offset project or has been granted the right to act on behalf of a party that holds the legal rights to the offset project. I understand that eligibility for the award of CO<sub>2</sub> offset allowances under §§ 145.391—145.397 is contingent on meeting the requirements of §§ 145.391—145.397. I authorize the Department or its agent to audit this offset project for purposes of verifying that the offset project, including the monitoring and verification plan, has been implemented as described in this application. I understand that this right to audit shall include the right to enter the physical location of the offset project. I submit to the legal jurisdiction of the Commonwealth of Pennsylvania.”

(7) A statement and certification report signed by the offset project sponsor certifying that all offset projects for which the sponsor has received CO<sub>2</sub> offset allowances under §§ 145.391—145.397, under the sponsor's ownership or control or under the ownership or control of any entity which controls, is controlled by, or has common control with the sponsor are in compliance with all applicable requirements of the CO<sub>2</sub> Budget Trading Program in all participating states.

(8) A verification report and certification statement signed by an independent verifier accredited under § 145.396 (relating to accreditation of independent verifiers) that expresses that the independent verifier has reviewed the entire application and evaluated the following in relation to the applicable requirements at § 145.393 (relating to general requirements) and § 145.395, and any applicable guidance issued by the Department:

(i) The adequacy and validity of information supplied by the project sponsor to demonstrate that the offset project meets the applicable eligibility requirements of §§ 145.393 and 145.395.

(ii) The adequacy and validity of information supplied by the project sponsor to demonstrate baseline emissions under the applicable requirements under § 145.395.

(iii) The adequacy of the monitoring and verification plan submitted under the applicable requirements under § 145.395.

(iv) Any other evaluations and statements as may be required by the Department.

(9) Disclosure of any voluntary or mandatory programs, other than the CO<sub>2</sub> Budget Trading Program, to which greenhouse gas emissions data related to the offset project has been or will be reported.

(d) The Department will not accept as submitted a consistency application for an offset project if a consistency application has already been submitted for the same project, or any portion of the same project, in another participating state, unless the consistency application was rejected by another participating state solely because more of the CO<sub>2</sub>e emissions reduction or carbon sequestration resulting from the offset project is projected to occur in this Commonwealth than in any other participating state.

(e) *Department action on consistency applications.*

(1) *Completeness determination.* Within 30 days following receipt of the consistency application submitted under subsection (b), 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 §§ 145.391—145.397. In no event will a completeness determination prevent the

Department from requesting additional information to make a consistency determination under subsection (e)(2).

(2) *Consistency determination.* Within 90 days of making the completeness determination under subsection (e)(1), the Department will issue a determination as to whether the offset project is consistent with the requirements of § 145.393 and this section and the requirements of the applicable offset project standard of § 145.395. For any offset project found to lack consistency with these requirements, the Department will inform the project sponsor of the offset project's deficiencies.

**§ 145.395. CO<sub>2</sub> emissions offset project standards.**

(a) *Landfill methane capture and destruction.* To qualify for the award of CO<sub>2</sub> offset allowances under §§ 145.391–145.397 (relating to CO<sub>2</sub> emissions offset projects), an offset project that captures and destroys methane from a landfill shall meet the requirements of this subsection and all other applicable requirements of §§ 145.391–145.397.

(1) *Eligibility.* An offset project 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 WWS (relating to emission guidelines and compliance times for municipal solid waste landfills; and standards of performance for municipal solid waste landfills).

(2) *Offset project description.* The project sponsor shall provide a detailed narrative of the offset project actions to be taken, including documentation that the offset project meets the eligibility requirements of subsection (a)(1). The project narrative shall include the following:

(i) Identification of the owner or operator of the offset project.

(ii) Location and specifications of the landfill where the offset project will occur, including waste in place.

(iii) Identification of the owner or operator of the landfill where the offset project will occur.

(iv) Specifications of the equipment to be installed and a technical schematic of the offset project.

(3) *Emissions baseline determination.* The emissions baseline shall represent the potential fugitive landfill emissions of CH<sub>4</sub>, in tons of CO<sub>2</sub>e, as represented by the CH<sub>4</sub> collected and metered for thermal destruction as part of the offset project and calculated as follows:

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

Where:

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

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

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

GWP = CO<sub>2</sub>e global warming potential of CH<sub>4</sub> (28).

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

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

Where:

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

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

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

Cef = Combustion efficiency of methane control technology (0.98).

GWP = CO<sub>2</sub>e global warming potential of CH<sub>4</sub> (28).

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

(i) As part of the consistency application, the project sponsor shall submit a monitoring and verification plan that includes a quality assurance and quality control program associated with equipment used to determine landfill gas volumetric flow rate and CH<sub>4</sub> composition. The monitoring and verification plan shall also include provisions for ensuring that measuring and monitoring equipment is maintained, operated and calibrated based on manufacturer recommendations, as well as provisions for the retention of maintenance records for audit purposes. The monitoring and verification plan shall be certified by an independent verifier accredited under § 145.396 (relating to accreditation of independent verifiers).

(ii) The project sponsor shall annually verify landfill gas CH<sub>4</sub> composition through landfill gas sampling and independent laboratory analysis using applicable EPA laboratory test methods.

(b) *Sequestration of carbon due to reforestation, improved forest management or avoided conversion.* To qualify for the award of CO<sub>2</sub> offset allowances under §§ 145.391–145.397, an offset project that involves reforestation, improved forest management, or avoided conversion shall meet all requirements of this subsection and the forest offset protocol, and all other applicable requirements of §§ 145.391–145.397.

(1) *Eligibility.* A forest offset project shall satisfy all eligibility requirements of the forest offset protocol and this subsection.

(2) *Offset project description.* The project sponsor shall provide a detailed narrative of the offset project actions to be taken, including documentation that the offset project meets the eligibility requirements of subsection (b)(1). The offset project description must include all information identified in sections 8.1 and 9.1 of the forest offset protocol, and any other information deemed necessary by the Department.

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

(4) *Calculating carbon sequestered.* Net greenhouse gas reductions and greenhouse gas removal enhancements



shall be calculated as required by section 6 of the forest offset protocol. The project's risk reversal rating shall be calculated using the forest offset protocol Determination of a Forest Project's Reversal Risk Rating assessment worksheet.

(5) *Monitoring and verification requirements.* Monitoring and verification are subject to the following:

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

(ii) The consistency application shall include a monitoring and verification plan certified by an independent verifier accredited under § 145.396 and shall consist of a forest carbon inventory program, as required by section 8.1 of the forest offset protocol.

(iii) Monitoring and verification reports shall be submitted not less than every 6 years, except that the first monitoring and verification report for reforestation projects must be submitted within 12 years of project commencement.

(6) *Forest Offset Project Data Reports.* A project sponsor shall submit a forest offset project data report to the Department for each reporting period. Each forest offset project data report must cover a single reporting period. Reporting periods must be contiguous and there must be no gaps in reporting once the first reporting period has commenced.

(7) Prior to the award of CO<sub>2</sub> offset allowances under § 145.397 (relating to award and recordation of CO<sub>2</sub> offset allowances), or to any surrender of allowances under § 145.395(b)(8)(ii)(C) (relating to CO<sub>2</sub> emissions offset project standards), any quantity expressed in metric tons, or metric tons of CO<sub>2</sub>e, shall be converted to tons using the conversion factor specified in § 145.302 (relating to definitions).

(8) *Carbon sequestration permanence.* The project sponsor shall meet the following requirements to address reversals of sequestered carbon.

(i) *Unintentional reversals.* The project sponsor shall address an unintentional reversal of sequestered carbon as follows:

(A) Notify the Department of the reversal and provide an explanation for the nature of the unintentional reversal within 30 calendar days of its discovery.

(B) Submit to the Department a verified estimate of current carbon stocks within the offset project boundary within 1 year of the discovery of the unintentional reversal.

(ii) *Intentional reversals.* The project sponsor shall address an intentional reversal of sequestered carbon as follows:

(A) Notify the Department in writing of the intentional reversal and provide a written description and explanation of the intentional reversal within 30 calendar days of the intentional reversal.

(B) Submit to the Department a verified estimate of current carbon stocks within the offset project boundary within 1 year of the occurrence of an intentional reversal.

(C) If an intentional reversal occurs, and CO<sub>2</sub> offset allowances have been awarded to the offset project, the forest owner must surrender to the Department or its agent for retirement a quantity of CO<sub>2</sub> allowances corre-

sponding to the quantity of CO<sub>2</sub>e tons reversed within 6 months of notification by the Department.

(I) The Department will provide notification after the project sponsor has submitted a verified estimate of carbon stocks to the Department, or if the project sponsor fails to submit verified estimate of carbon stocks after 1 year has elapsed since the occurrence of the intentional reversal.

(II) If the forest owner does not surrender valid CO<sub>2</sub> allowances to the Department within 6 months of notification by the Department, the forest owner will be subject to enforcement action and each CO<sub>2</sub>e equivalent ton of carbon sequestration intentionally reversed will constitute a separate violation of this subchapter and the act.

(D) *Project Termination Requirements.*

(I) The project sponsor must surrender to the Department or its agent for retirement a quantity of CO<sub>2</sub> allowances in the amount calculated under project termination provisions in the forest offset protocol within 6 months of project termination.

(II) If the project sponsor does not surrender to the Department or its agent a quantity of CO<sub>2</sub> allowances in the amount calculated under project termination provisions in the forest offset protocol within 6 months of project termination, the project sponsor will be subject to enforcement action and each CO<sub>2</sub> offset allowance not surrendered will constitute a separate violation of this subchapter and the act.

(iii) *Disposition of Forest Sequestration Projects After a Reversal.* The Department will terminate a forest offset project if a reversal lowers the forest offset project's actual standing live carbon stocks below its project baseline standing live carbon stocks.

(9) *Timing of forest offset projects.* The Department may award CO<sub>2</sub> offset allowances under § 145.397 only for forest offset projects that are initially commenced on or after January 1, 2014.

(10) *Projects that Have Been Awarded Credits by a Voluntary Greenhouse Gas Reduction Program.* The provisions of §§ 145.393(c)(4) and 145.394(b)(2) (relating to general requirements; and application process) shall not apply to forest projects that have been awarded credits under a voluntary greenhouse gas reduction program. For those projects, the number of CO<sub>2</sub> offset allowances will be calculated under the requirements of this subsection, without regard to quantity of credits that were awarded to the project under the voluntary program, provided that the project satisfies the following:

(i) All other general requirements of §§ 145.391—145.397, including all specific requirements of this subsection, for all reporting periods for which the project has been awarded credits under a voluntary greenhouse gas program and also intends to be awarded CO<sub>2</sub> offset allowances under § 145.397.

(ii) At the time of submittal of the consistency application for the project, the project sponsor submits forest offset data reports and a monitoring and verification report covering all reporting periods for which the project has been awarded credits under a voluntary greenhouse gas program and also intends to be awarded CO<sub>2</sub> offset allowances under § 145.397. Forest offset data reports and monitoring and verification reports must meet all requirements of subsections (b)(5) and (6).

(iii) The voluntary greenhouse gas program has published information to allow the Department to verify the

information included in the consistency application and the consistency application includes information sufficient to allow the Department to determine the following:

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

(B) The project sponsor or voluntary greenhouse gas program has cancelled or retired all credits that were awarded for carbon sequestration that occurred during the time periods for which the project intends to be awarded CO<sub>2</sub> offset allowances under § 145.397, and the credits were cancelled or retired for the sole purpose of allowing the project to be awarded CO<sub>2</sub> offset allowances under § 145.397.

(c) *Avoided methane emissions from agricultural manure management operations.* To qualify for the award of CO<sub>2</sub> offset allowances under §§ 145.391—145.397, an offset project that captures and destroys methane from animal manure and organic food waste using anaerobic digesters shall meet the requirements of this subsection and all other applicable requirements of §§ 145.391—145.397.

(1) *Eligibility.* To be eligible for CO<sub>2</sub> offset allowances, an offset project under this subsection shall:

(i) Consist of the destruction of that portion of methane generated by an anaerobic digester that would have been generated in the absence of the offset project through the uncontrolled anaerobic storage of manure or organic food waste.

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

(2) *Exceptions to the general requirements.* The provisions of § 145.393(c)(2) and (3) shall not apply to an agricultural manure management offset project that meets the following:

(i) The offset project is located in a participating state that has a market penetration rate for anaerobic digester projects of 5% or less. The market penetration determination shall utilize the most recent market data available at the time of submission of the consistency application under § 145.394 and shall be determined as follows:

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

Where:

MG<sub>AD</sub> = 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 under § 145.394.

MG<sub>STATE</sub> = Average annual manure production of all dairy cows and swine in the participating state at the time of submission of a consistency application under § 145.394.

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

units, assuming an average live weight for dairy cows in pounds per cow of 1,400 pounds.

(3) *Offset project description.* The project sponsor shall provide a detailed narrative of the offset project actions to be taken, including documentation that the offset project meets the eligibility requirements of subsection (c)(1). The offset project narrative shall include the following:

(i) Identification of the owner or operator of the offset project.

(ii) Location and specifications of the facility where the offset project will occur.

(iii) Identification of the owner or operator of the facility where the offset project will occur.

(iv) Specifications of the equipment to be installed and a technical schematic of the offset project.

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

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

(i) Baseline CH<sub>4</sub> emissions shall be calculated as follows:

$$E_b = (V_m \times M) / 2000 \times GWP$$

Where:

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

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

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

GWP = Global warming potential of CH<sub>4</sub> (28).

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

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

Where:

VS = Volatile solids as determined from the equation:

$$VS = M_m \times TS\% \times VS\%$$

Where:

M<sub>m</sub> = Mass of manure or organic food waste produced per month (kg).

TS% = Concentration (%) of total solids in manure or organic food waste as determined through EPA 160.3 testing method (EPA Method Number 160.3, Methods for the Chemical Analysis of Water and Wastes (EPA/600/4-79/020)).

VS% = Concentration (%) of volatile solids in total solids as determined through EPA 160.4 testing method (EPA Method Number 160.4, Methods for the Chemical Analysis of Water and Wastes (EPA/600/4-79/020)).

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

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

Where:

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

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

$VS_{out}$  = Volatile solids removed from the manure or organic food waste storage for land application or export (assumed value based on standard farm practice).

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

$$f = \exp\{[E(T_2 - T_1)] / [(GC \times T_1 \times T_2)]\}$$

Where:

$f$  = Conversion efficiency of VS to CH<sub>4</sub> 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 °C > 5 °C; if reported temperature °C < 5 °C, then  $f = 0.104$ ).

$T_1$  = 303.15 (30°C converted to °K).

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

(iii) The volume of CH<sub>4</sub> produced in cubic feet (ft<sup>3</sup>) from decomposition of volatile solids shall be calculated as follows:

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

Where:

$V_m$  = Volume of CH<sub>4</sub> (ft<sup>3</sup>).

$VS_{dec}$  = Volatile solids decomposed (kg).

$B_o$  = Manure or organic food waste type-specific maximum methane generation constant (m<sup>3</sup> CH<sub>4</sub>/kg VS decomposed). For dairy cow manure,  $B_o = 0.24$  m<sup>3</sup> CH<sub>4</sub>/kg VS decomposed. The methane generation constant for other types of manure shall be those cited at the EPA, Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990—2010, Annex 3, Table A 180 (EPA, February 2017), unless the project sponsor proposes an alternate methane generation constant and that alternate is approved by the Department. If the project sponsor proposes to use a methane generation constant other than the ones found in the previously-cited reference, the project sponsor must provide justification and documentation to the Department.

(5) *Calculating emissions reductions.* Emissions reductions shall be calculated as follows:

$$ER_t = E_b - E_p$$

Where:

$ER_t$  = CO<sub>2</sub>e emissions reductions due to project activities (tons).

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

$E_p$  = CO<sub>2</sub>e emissions due to project activities additional to baseline (tons), including manure transportation, flaring, venting and effluent management.

(6) *Transport CO<sub>2</sub> emissions.* Emissions reductions may not exceed the potential emissions of the anaerobic digester, as represented by the annual volume of CH<sub>4</sub> produced by the anaerobic digester, as monitored under subsection (c)(5). CO<sub>2</sub> emissions due to transportation of manure and organic food waste from the site where the manure and organic food waste was generated to the anaerobic digester shall be subtracted from the emissions calculated under subsection (c)(4)(i)—(iii). Transport CO<sub>2</sub> emissions shall be determined through one of the following methods:

(i) Documentation of transport fuel use for all shipments of manure and organic food waste from off-site to the anaerobic digester during each reporting year and a log of transport miles for each shipment. Off-site is defined as a location that is not contiguous with the property where the anaerobic digester is located. CO<sub>2</sub> emissions shall be determined through the application of an emissions factor for the fuel type used. If this option is chosen, the following emissions factors shall be applied as appropriate:

(A) Diesel fuel: 22.912 lbs. CO<sub>2</sub>/gallon.

(B) Gasoline: 19.878 lbs. CO<sub>2</sub>/gallon.

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

(ii) 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 under subsection (c)(7)(i), and a log of transport miles and fuel type used for each shipment. CO<sub>2</sub> emissions shall be determined through the application of a ton-mile transport emission factor for the fuel type used. If this option is chosen, the following emissions factors shall be applied as appropriate for each ton of manure delivered and multiplied by the number of miles transported:

(A) Diesel fuel: 0.131 lb. CO<sub>2</sub> per ton-mile.

(B) Gasoline: 0.133 lb. CO<sub>2</sub> per ton-mile.

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

(7) *Monitoring and verification requirements.* An offset project shall employ a system that provides metering of biogas volumetric flow rate and determination of CH<sub>4</sub> concentration. Annual monitoring and verification reports shall include monthly biogas volumetric flow rate and CH<sub>4</sub> concentration determination. Monitoring and verification shall also meet the following:

(i) If the offset project is a regional-type anaerobic 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 anaerobic digestion, consistent with the requirements under subsection (c)(4) and subsection (c)(7)(iii) and apportioned accordingly among sources. The project sponsor shall provide supporting material and receipts tracking the monthly receipt of manure and



organic food waste in kilograms (kg) used to supply the anaerobic digester from each supplier.

(ii) If the offset project includes the anaerobic digestion of organic food waste eligible under subsection (c)(1)(ii), organic food waste shall be sampled monthly to determine the amount of volatile solids present before anaerobic digestion, consistent with the requirements at subsection (c)(4) and subsection (c)(7)(iii), and apportioned accordingly.

(iii) The project sponsor shall submit a monitoring and verification plan as part of the consistency application that includes a quality assurance and quality control

program associated with equipment used to determine biogas volumetric flow rate and CH<sub>4</sub> composition. The monitoring and verification plan shall be specified in accordance with the applicable monitoring requirements listed in Table 3. The monitoring and verification plan shall also include provisions for ensuring that measuring and monitoring equipment is maintained, operated and calibrated based on manufacturer's recommendations, as well as provisions for the retention of maintenance records for audit purposes. The monitoring and verification plan shall be certified by an independent verifier accredited under § 145.396.

**Table 3. Monitoring requirements**

<i>Parameter</i>	<i>Measurement Unit</i>	<i>Frequency of Sampling</i>	<i>Sampling Methods</i>
Influent flow (mass) into the digester	Kilograms (kg) per month (wet mass)	Monthly total into the digester	In descending order of preference: 1) Recorded mass 2) Digester influent pump flow 3) Livestock population and application of American Society of Agricultural and Biological Engineers (ASABE) standard (ASAE D384.2, March 2005)
Influent total solids concentration (TS)	Percent (of sample)	Monthly, depending upon recorded variations	EPA Method Number 160.3, Methods for the Chemical Analysis of Water and Wastes (EPA/600/4-79/020)
Influent volatile solids (VS) concentration	Percent (of TS)	Monthly, depending upon recorded variations	EPA Method Number 160.4, Methods for the Chemical Analysis of Water and Wastes (EPA/600/4-79/020)
Average monthly ambient temperature	Temperature °C	Monthly (based on farm averages)	Closest National Weather Service—certified weather station
Volume of biogas produced by digester	Standard cubic feet (scf)	Continuous, totalized monthly	Flow meter
Methane composition of biogas produced by digester	Percent (of sample)	Quarterly	Bag sampling and third party laboratory analysis using applicable EPA test methods

**§ 145.396. Accreditation of independent verifiers.**

(a) *Standards for accreditation.* An independent verifier may be accredited by the Department to provide verification services as required of a project sponsor under this subchapter, provided that an independent verifier meets all the requirements of this section.

(1) *Verifier minimum requirements.* Each accredited independent verifier shall demonstrate knowledge of the following:

- (i) Utilizing engineering principles.
- (ii) Quantifying greenhouse gas emissions.
- (iii) Developing and evaluating air emissions inventories.
- (iv) Auditing and accounting principles.
- (v) Information management systems.
- (vi) The requirements of this subchapter.
- (vii) Such other qualifications as may be required by the Department to provide competent verification services as required for individual offset categories under § 145.395 (relating to CO<sub>2</sub> emissions offset project standards).

(2) *Organizational qualifications.* An accredited independent verifier shall demonstrate that they meet the following:

(i) No direct or indirect financial relationship, beyond a contract for provision of verification services, with any offset project developer or project sponsor.

(ii) Employ staff with professional licenses, knowledge and experience appropriate to the specific category of offset projects under § 145.395 that they seek to verify.

(iii) Hold a minimum of \$1 million of professional liability insurance. If the insurance is in the name of a related entity, the verifier shall disclose the financial relationship between the verifier and the related entity, and provide documentation supporting the description of the relationship.

(iv) 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 under § 145.394(e) (relating to application process), and remedy any conflicts of interest prior to providing verification services.

(3) *Pre-qualification of verifiers.* The Department may require prospective verifiers to successfully complete a training course, workshop or test developed by the Department or its agent, prior to submitting an application for accreditation.

(b) *Application for accreditation.* 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 2 years of experience in each of the knowledge areas specified at subsection (a)(1)(i)–(v), and as may be required under subsection (a)(1)(vii).

(3) Documentation that the applicant has successfully completed the requirements at subsection (a)(3), as applicable.

(4) A sample of at least one work product that provides supporting evidence that the applicant meets the requirements at subsections (a)(1) and (2). 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 under subsection (a)(2)(iii).

(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 under subsection (a)(2)(iv).

(c) *Department action on applications for accreditation.* 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 3 years from the date of application approval.

(d) *Reciprocity.* Independent verifiers accredited in other participating states may be deemed to be accredited in this Commonwealth, at the discretion of the Department.

(e) *Conduct of an accredited verifier.*

(1) Prior to engaging in verification services for an offset project sponsor, the accredited verifier shall disclose all relevant information to the Department to allow for an evaluation of potential conflict of interest with respect to an offset project, offset project developer or project sponsor. The accredited verifier shall disclose information concerning its ownership, past and current clients, related entities, as well as any other facts or circumstances that have the potential to create a conflict of interest.

(2) An accredited 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.

(3) The Department may reject a verification report and certification statement from an accredited verifier, submitted as part of a consistency application required under § 145.394(b) or submitted as part of a monitoring and verification report submitted under § 145.397(b) (relating to award and recordation of CO<sub>2</sub> offset allowances), if the Department determines that the accredited verifier has a conflict of interest related to the offset project, offset project developer or project sponsor.

(4) The Department may revoke the accreditation of a verifier at any time for the following:

(i) Failure to fully disclose any issues that may lead to a conflict of interest situation with respect to an offset project, offset project developer or project sponsor.

(ii) The verifier is no longer qualified due to changes in staffing or other criteria.

(iii) Negligence or neglect of responsibilities pursuant to the requirements of this subchapter.

(iv) Intentional misrepresentation of data or other intentional fraud.

#### § 145.397. Award and Recordation of CO<sub>2</sub> offset allowances.

(a) *Award of CO<sub>2</sub> offset allowances.* Following the issuance of a consistency determination under § 145.394(e)(2) (relating to application process) and the approval of a monitoring and verification report under the provisions of subsection (f), the Department will award one CO<sub>2</sub> offset allowance for each ton of demonstrated reduction in CO<sub>2</sub> or CO<sub>2</sub>e emissions or sequestration of CO<sub>2</sub>.

(b) *Recordation of CO<sub>2</sub> offset allowances.* After CO<sub>2</sub> offset allowances are awarded under subsection (a)(1), the Department will record the CO<sub>2</sub> offset allowances in the project sponsor's general account.

(c) *Deadlines for submittal of monitoring and verification reports.*

(1) For an offset project undertaken prior to January 1, 2022, the project sponsor shall submit the monitoring and verification report covering the pre-2022 period by June 30, 2022.

(2) For an offset project undertaken on or after January 1, 2022, the project sponsor shall submit the monitoring and verification report within 6 months following the completion of the last calendar year during which the offset project achieved CO<sub>2</sub>e reductions or sequestration of CO<sub>2</sub> for which the project sponsor seeks the award of CO<sub>2</sub> offset allowances.

(d) *Contents of monitoring and verification reports.* For an offset project, the monitoring and verification report must include the following:

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

(2) The CO<sub>2</sub> emissions reduction or CO<sub>2</sub> sequestration determination as required by the relevant provisions of § 145.395 (relating to CO<sub>2</sub> emissions offset project standards), including a demonstration that the project sponsor complied with the required quantification, monitoring and verification procedures under § 145.395, as well as those outlined in the consistency application approved under § 145.394(e)(2).

(3) A signed certification statement that reads "The undersigned project sponsor hereby confirms and attests that the offset project upon which this monitoring and verification report is based is in full compliance with all of the requirements of §§ 145.391–145.397. The project sponsor holds the legal rights to the offset project or has been granted the right to act on behalf of a party that holds the legal rights to the offset project. I understand that eligibility for the award of CO<sub>2</sub> offset allowances under §§ 145.391–145.397 is contingent on meeting the requirements of §§ 145.391–145.397. 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 Depart-

ment. I understand that this right to audit shall include the right to enter the physical location of the offset project and to make available to the Department or its agent any and all documentation relating to the offset project at the Department's request. I submit to the legal jurisdiction of the Commonwealth of Pennsylvania."

(4) A certification signed by the project sponsor certifying that all offset projects for which the sponsor has received CO<sub>2</sub> 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<sub>2</sub> Budget Trading Program in all participating states.

(5) A verification report and certification statement signed by an independent verifier accredited under § 145.396 (relating to accreditation of independent verifiers) that documents that the independent verifier has reviewed the monitoring and verification report and evaluated the following in relation to the applicable requirements at § 145.395, and any applicable guidance issued by the Department:

(i) The adequacy and validity of information supplied by the project sponsor to determine CO<sub>2</sub> emissions reductions or CO<sub>2</sub> sequestration under the applicable requirements at § 145.395.

(ii) The adequacy and consistency of methods used to quantify, monitor and verify CO<sub>2</sub> emissions reductions and CO<sub>2</sub> sequestration in accordance with the applicable requirements at § 145.395 and as outlined in the consistency application approved under § 145.394(e)(2).

(iii) The adequacy and validity of information supplied by the project sponsor to demonstrate that the offset project meets the applicable eligibility requirements under § 145.395.

(iv) Other evaluations and verification reviews as may be required by the Department.

(6) Disclosure of any voluntary or mandatory programs, other than the CO<sub>2</sub> Budget Trading Program, to which greenhouse gas emissions data related to the offset project has been or will be reported.

(e) *Prohibition against filing monitoring and verification reports in more than one participating state.* The Department will only accept a monitoring and verification report for an offset project that has received a consistency determination under § 145.394(e)(2) and will not accept a monitoring and verification report for an offset project that has received a consistency determination in other participating states.

(f) *Department action on monitoring and verification reports.*

(1) A complete monitoring and verification report is one that is in an approved form and is determined by the Department to be complete for the purpose of commencing review of the monitoring and verification report. In no event shall a completeness determination prevent the Department from requesting additional information needed by the Department to approve or deny a monitoring and verification report.

(2) Within 45 days following receipt of a complete report, the Department will approve or deny a complete monitoring and verification report, in a format approved by the Department, filed with the Department under subsections (c) and (d).

## CO<sub>2</sub> ALLOWANCE AUCTIONS

Sec.

- 145.401. Auction of CO<sub>2</sub> allowances.
- 145.402. Auction format.
- 145.403. Auction timing and CO<sub>2</sub> allowance submission schedule.
- 145.404. Auction notice.
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- 145.406. Auction participant qualification.
- 145.407. Submission of financial security.
- 145.408. Bid submittal requirements.
- 145.409. Approval of auction results.

### § 145.401. Auction of CO<sub>2</sub> allowances.

(a) Except as provided under subsection (b), the Department will participate in a multistate CO<sub>2</sub> allowance auction in coordination with other participating states based on the following:

(1) A multistate auction capability and process is in place for the participating states.

(2) The multistate auction can provide benefits to this Commonwealth that meet or exceed the benefits conferred on Pennsylvania through its own Pennsylvania-run auction process.

(3) The multistate auction process is consistent with the process described in §§ 145.401—145.409 (relating to CO<sub>2</sub> allowance auctions).

(4) The multistate auction process includes monitoring of each CO<sub>2</sub> allowance auction by an independent monitor to identify any collusion, market power or price manipulation.

(b) Should the Department find that the conditions in subsection (a) are no longer met, the Department may determine to conduct a Pennsylvania-run auction in accordance with §§ 145.341—145.343 (relating to Pennsylvania CO<sub>2</sub> Budget Trading Program base budget; CO<sub>2</sub> allowance allocations; and distribution of CO<sub>2</sub> allowances in the air pollution reduction account) and 145.401—145.409.

(c) The Department may delegate the implementation and administrative support functions for any CO<sub>2</sub> allowance auction conducted under §§ 145.401—145.409 to an agent qualified to conduct auctions, including a regional entity, provided that the agent shall perform all functions under the direction and oversight of the Department.

(d) The Department will retain its authority to enforce compliance with all sections of this subchapter and will retain control over the proceeds associated with the sale of Pennsylvania CO<sub>2</sub> allowances, whether sold in a multistate or Pennsylvania CO<sub>2</sub> allowance auction and will credit the proceeds to the Clean Air Fund established under the act.

### § 145.402. Auction format.

(a) The format of a CO<sub>2</sub> allowance auction will be one or more of the following:

- (1) Uniform-price sealed-bid.
- (2) Discriminatory-price sealed-bid.
- (3) Ascending price, multiple-round.
- (4) Descending price, multiple-round.

(b) CO<sub>2</sub> allowances will be auctioned in lots of 1,000 CO<sub>2</sub> allowances, unless the volume of CO<sub>2</sub> allowances auctioned requires an individual lot size smaller than 1,000.

(c) The Department will establish a reserve price for each CO<sub>2</sub> allowance auction, which will be either the minimum reserve price or the CCR trigger price, as specified under § 145.382 (relating to general require-



ments), Table 1 (relating to CO<sub>2</sub> CCR trigger price) and §§ 145.381 and 145.382 (relating to purpose; and general requirements).

**§ 145.403. Auction timing and CO<sub>2</sub> allowance submission schedule.**

(a) A CO<sub>2</sub> allowance auction will be held no less frequently than annually, and as frequently as the Department determines is necessary and practical to ensure the availability of CO<sub>2</sub> allowances to CO<sub>2</sub> budget units and CO<sub>2</sub> budget sources and to support the effective functioning of the CO<sub>2</sub> allowance market.

(b) Prior to the end of each control period or interim control period, the Department will make available for sale by auction, all CO<sub>2</sub> allowances held in the air pollution reduction account that are designated for the allocation years associated with that control period or interim control period. This will not include CO<sub>2</sub> allowances set aside in the waste coal set-aside account under § 145.342(i) (relating to CO<sub>2</sub> allowance allocations), the strategic use set-aside account under § 145.342(j) or the cogeneration set-aside account under § 145.342(k).

(c) The number of CO<sub>2</sub> allowances to be made available for sale in an auction will be disclosed in the notice of CO<sub>2</sub> allowance auction issued under § 145.404 (relating to auction notice).

(d) An auction of CO<sub>2</sub> allowances will include a CO<sub>2</sub> cost containment reserve and a CCR trigger price, as provided under § 145.342.

**§ 145.404. Auction notice.**

(a) A notice of each CO<sub>2</sub> allowance auction will be provided no later than 45 days prior to the date upon which the auction will be conducted.

(b) In addition to the information specified under § 145.382(a) (relating to general requirements), the notice of a CO<sub>2</sub> allowance auction will include the following:

- (1) The date, time and location of the CO<sub>2</sub> allowance auction.
- (2) The format for the CO<sub>2</sub> allowance auction.
- (3) The categories of bidders who will be eligible to bid.
- (4) The number and allocation years of Pennsylvania CO<sub>2</sub> allowances to be auctioned.
- (5) The minimum reserve price.
- (6) All information regarding the CO<sub>2</sub> cost containment reserve, required to be in the notice under § 145.382(a).
- (7) The procedures for conducting the CO<sub>2</sub> allowance auction, including the required bid submission format and process, and information regarding financial settling of CO<sub>2</sub> allowance payments.
- (8) All CO<sub>2</sub> allowance auction participation requirements.
- (9) The amount and type of financial security required and instructions for submitting acceptable financial surety.
- (10) Participation limits, including bidding limits that may apply to an individual bidder or a group of related bidders.
- (11) Application instructions for applying to participate in the CO<sub>2</sub> allowance auction.
- (12) Identification of a Pennsylvania auction contact person for further information.

(13) Other pertinent rules or procedures of the auction as may be required to ensure a transparent, fair and competitive auction.

**§ 145.405. Auction participant requirements.**

(a) To be classified by the Department as a bidder eligible to participate in a specific CO<sub>2</sub> allowance auction, a qualified participant must meet the following:

(1) Be a member of a category of those eligible to participate in the specified CO<sub>2</sub> allowance auction as indicated by the notice of CO<sub>2</sub> allowance auction issued under § 145.404(b) (relating to auction notice).

(2) Open and maintain a compliance account or general account, established under § 145.351 (relating to CO<sub>2</sub> allowance tracking system (COATS) accounts).

(3) 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<sub>2</sub> allowance auction issued under § 145.404(b).

(b) The Department will announce the categories of parties that are eligible to participate in a specific CO<sub>2</sub> allowance auction as part of the notice of the CO<sub>2</sub> allowance auction, provided that an owner or operator of a CO<sub>2</sub> budget unit located in this Commonwealth is always eligible to participate in a CO<sub>2</sub> allowance auction.

(c) For a CO<sub>2</sub> allowance auction, the following categories of parties may be eligible to participate:

- (1) The owner or operator of a CO<sub>2</sub> budget unit located in this Commonwealth.
- (2) The owner or operator of a CO<sub>2</sub> budget unit located in a participating state.
- (3) A broker.
- (4) An environmental organization.
- (5) A financial or investment institution.
- (6) Any other market participant, as may be specified in the notice of the CO<sub>2</sub> allowance auction.

**§ 145.406. Auction participant qualification.**

(a) A person who intends to participate in a CO<sub>2</sub> allowance auction shall submit a qualification application to the Department, in the form and manner specified in the notice of the CO<sub>2</sub> allowance auction.

(b) The deadline for submitting a qualification application will be established in the notice of the CO<sub>2</sub> allowance auction.

(c) As part of a qualification application, an applicant shall provide information and documentation relating to the ability and authority of the applicant to execute bids and honor contractual obligations, including the following:

- (1) Identification by the applicant of either a compliance account or general account established under § 145.351 (relating to CO<sub>2</sub> allowance tracking system (COATS) accounts) and identification of the CO<sub>2</sub> authorized account representative for the 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, principal, 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.

(5) Other information and declarations as the Department determines may be required of an applicant to ensure the integrity of the CO<sub>2</sub> allowance auction process.

(d) The Department will determine whether a qualification application is complete, or incomplete, or otherwise deficient. If the Department determines that an application is incomplete or otherwise deficient, the applicant will be given 10 business days to provide additional information to the Department to complete the application or remedy any application deficiency.

(e) The Department will review a complete qualification application, make a determination as to whether the applicant is qualified to participate in the CO<sub>2</sub> allowance auction and notify the applicant in writing not later than 15 days before the CO<sub>2</sub> allowance auction.

(f) The Department may deny qualification to an applicant based on information submitted in a qualification application to ensure the integrity of the CO<sub>2</sub> allowance auction process in accordance with the requirements and procedures for auctions established under §§ 145.405, 145.407 and 145.408 (relating to auction participant requirements; submission of financial security; and bid submittal requirements).

(g) The Department may revoke the qualification status of a qualified participant, if the participant fails to comply with the applicable requirements of this subchapter, or if the Department determines that they have knowingly provided false or misleading information or withheld pertinent information from the qualification application submitted under subsection (a). The Department may also prohibit the qualified participant from participating in a future CO<sub>2</sub> allowance auction where the Department determines that the prior conduct could compromise the integrity of a subsequent CO<sub>2</sub> allowance auction.

(h) A qualified participant will remain qualified to participate in future CO<sub>2</sub> allowance auctions after the Department's qualification determination, provided that there has been no material change to the information supplied to the Department in the qualification application submitted under subsection (a). If there is a material change to the information in the qualification application submitted under subsection (a), the qualification status will expire as of the date of the change, pending the submission of a new qualification application under subsection (a) and a determination by the Department that the applicant is qualified to participate in a CO<sub>2</sub> allowance auction.

(i) Prior to each CO<sub>2</sub> allowance auction, a qualified participant who intends to participate in the auction shall notify the Department, through a notice of intent to bid, that they intend to participate in the upcoming CO<sub>2</sub> allowance auction. The notice shall be submitted to the Department by the same date as that required for submitting a qualification application established in the notice of the CO<sub>2</sub> allowance auction.

(j) As part of a notice of intent to bid submitted to the Department under subsection (i), a qualified participant

shall notify the Department whether there has been a material change to the information supplied in the qualification application submitted under subsection (a).

#### § 145.407. Submission of financial security.

(a) To participate in a CO<sub>2</sub> allowance auction, a qualified participant shall provide financial security to the Department, including 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 the CO<sub>2</sub> allowance auction.

(b) The Department will approve the qualified participant to participate as a bidder in the specified CO<sub>2</sub> allowance auction after the Department has approved the financial security submitted under subsection (a). The eligibility to bid in any auction shall be limited to the level of financial security provided.

(c) A qualified participant who submits financial security may request return of the financial security at any time prior to or following a CO<sub>2</sub> allowance auction, subject to the following limitations:

(1) A request for the return of financial security prior to a CO<sub>2</sub> allowance auction will result in the Department revoking approval to participate in the CO<sub>2</sub> allowance auction, as of the date of the request.

(2) The Department will not return the financial security if the Department has a current or pending claim to the financial security as a result of the failure of the bidder to abide by the requirements of this subchapter or to pay the full amount of a submitted bid when payment is due.

#### § 145.408. Bid submittal requirements.

(a) A bidder shall submit a bid, in a form and manner prescribed by the Department, in an amount that does not exceed the amount of financial security provided to the Department.

(b) A bidder, including any affiliate or agent of the bidder, or any combination of bidders with related beneficial interests, shall purchase no more than 25% of the CO<sub>2</sub> allowances offered for sale in a CO<sub>2</sub> allowance auction. The limitation, which will not be increased by CCR allowances, will be published in the auction notice under § 145.404(b) (relating to auction notice).

(c) A bidder shall not use or employ any manipulative, misleading or deceptive practice in connection with its prequalification application or purchase of CO<sub>2</sub> allowances from the Department, including, any practice that contravenes or violates any applicable Federal or participating state law, rules or regulation.

(d) A bid submitted at a CO<sub>2</sub> allowance auction is a binding offer for the purchase of CO<sub>2</sub> allowances.

#### § 145.409. Approval of auction results.

(a) An independent monitor, such as a certified public accounting firm or similar entity, shall observe the conduct and outcome of each auction and issue a report to the Department in accordance with professional auditing standards addressing whether the auction was conducted in accordance with the procedures and requirements

under §§ 145.341—145.343 and 145.401—145.409 (relating to CO<sub>2</sub> allowance allocations; and CO<sub>2</sub> allowance auctions) and whether there was any indication of collusive behavior among auction participants or attempts at market manipulation that impacted the results of the auction.

(b) The independent monitor shall monitor allowance market data and information known to the Department, including CO<sub>2</sub> allowance transactions and associated pricing reported in COATS, and other relevant data and information to ensure fair competition, efficient pricing and protection against collusive or manipulative behavior in the CO<sub>2</sub> allowance auctions and the CO<sub>2</sub> Budget Trading Program.

(c) The Department may approve the outcome of a CO<sub>2</sub> allowance auction following the completion of the auction, based on an evaluation of the report from the independent monitor.

(d) Upon receipt and approval by the Department of the report and upon payment in full by successful bidders, the Department or its agent shall transfer and record the corresponding CO<sub>2</sub> allowances to the compliance or general account of each successful bidder.

(e) After the Department has approved the results of a CO<sub>2</sub> allowance auction, the Department will make available the auction clearing price and the number of CO<sub>2</sub> allowances sold in the auction.

[Pa.B. Doc. No. 20-1541. Filed for public inspection November 6, 2020, 9:00 a.m.]

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