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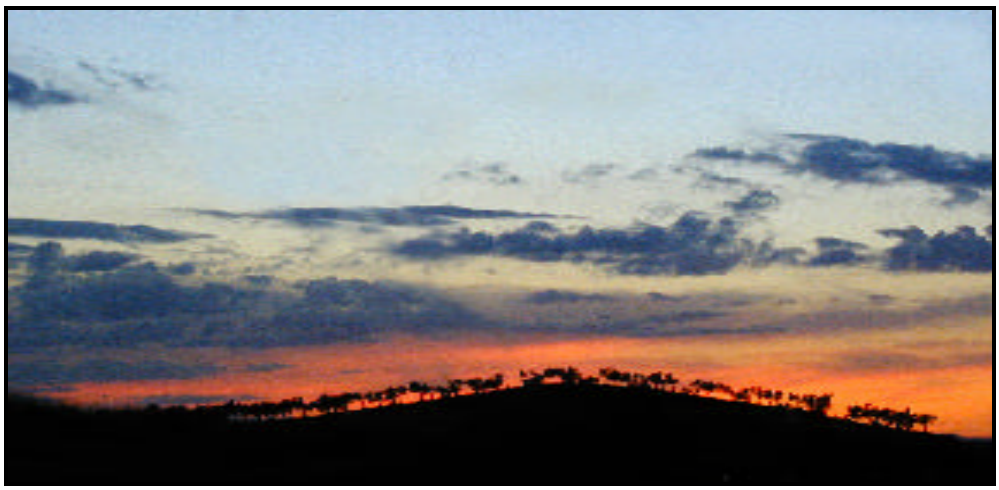
Climate Protection Division

CREATING AN ENERGY EFFICIENCY AND RENEWABLE ENERGY SET-ASIDE IN THE NOX BUDGET TRADING PROGRAM:

Designing the Administrative and Quantitative Elements



Draft Guidance **Volume 2 of 3**

PREFACE

This document is the second of three guidance documents that EPA is issuing to help states take advantage of the air quality benefits of voluntary energy efficiency and renewable energy actions. Adoption of energy efficiency and renewable energy in the residential, commercial and industrial sectors can reduce emissions of criteria pollutants, including nitrogen oxides or "NOx." Emissions reductions from these types of measures can be recognized in a state's air quality attainment strategy through the use of an energy efficiency and renewable energy set-aside program.

In September 1998 EPA promulgated a rule, commonly known as the NOx SIP Call, to address regional transport of ground-level ozone, the main component of smog. Ground-level ozone is transported by the wind, and tends to be a problem over broad regional areas, particularly in the eastern United States. Emissions of NOx react in the atmosphere to form compounds that contribute to the formation of ozone. These compounds, as well as ozone itself, can travel hundreds of miles across state boundaries to affect public health in areas far from the source of the emissions. Thus, cities with "clean" air, those that meet or attain the national air quality standards for ozone, may be contributing to a downwind city's ozone problem because of transport.

The Clean Air Act requires that a state implementation plan (SIP) contain provisions to prevent a state's facilities or sources from contributing significantly to air pollution problems "downwind," specifically in those areas that fail to meet the national air quality standards for ozone. The NOx SIP Call requires eastern states to submit SIPs that address the regional transport of ground-level ozone. By reducing emissions of NOx, the transport of ground-level ozone across state boundaries can be reduced. The NOx SIP Call includes a model NOx Budget Trading Program that allows states to achieve over 90% of the required emissions reductions in a highly cost-effective way.

The NOx Budget Trading Program is one example of how EPA is working towards giving states more tools and greater flexibility in meeting their air quality attainment goals. Another is this effort by EPA to include the emissions reductions achieved through voluntary actions, such as energy efficiency and renewable energy projects, in state implementation plans. This important new effort will provide states with increased flexibility for meeting the National Ambient Air Quality Standards.

Analyses show that this pollution prevention approach can improve local economies through higher productivity and the creation of more jobs while increasing the gross state product. A major study by the U.S. Department of Energy also shows that accelerated adoption of the energy efficiency measures likely to be included in this effort is an essential, economically sound means to reduce emissions of greenhouse gases while developing the US economy.

This guidance document is being issued in draft form to most effectively assist states in designing the administrative and quantitative elements of an energy efficiency and renewable energy set-aside. EPA is soliciting comments on this draft through July 2000. Comments should be directed to Edgar Mercado or Chloe Weil at the U.S. Environmental Protection Agency, Ariel Rios Building 6202J, 1200 Pennsylvania Avenue NW, Washington, DC 20460.

ACKNOWLEDGMENTS

The guidance documents Creating an Energy Efficiency and Renewable Energy Set-Aside in the NOx Budget Trading Program: *Establishing a Set-Aside, Creating an Energy Efficiency and Renewable Energy Set-Aside in the NOx Budget Trading Program: Designing the Administrative and Quantitative Elements*, and *Creating an Energy Efficiency and Renewable Energy Set-Aside in the NOx Budget Trading Program: Measuring and Verifying Electricity Savings* were developed through the efforts of a workgroup that EPA convened with state and regional representatives. The group worked for over a year to research design elements and to develop options for promoting energy efficiency and renewable energy actions in the context of the NOx Budget Trading Program, as it was being developed by EPA. The workgroup also tested the workability of the systems by applying the approaches outlined in this guidance using data and information from real projects. The principal elements of all three guidance documents were reviewed by the workgroup. ICF Consulting of Fairfax, Virginia, also assisted in this endeavor, under EPA contract 68-W5-0068.

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LIST OF ACRONYMS

AAR Authorized Account Representative
BAU Business as Usual
BSGP Building Standards and Guidelines Program
Btu British thermal unit
CAA Clean Air Act
CABO Council of American Building Officials
CCAP Climate Change Action Plan
CEM Continuous Emissions Monitors
CHP Combined Heat and Power
CO_2 Carbon Dioxide
CVP Conservation Verification Protocol
DOE Department of Energy
DSM Demand Side Management
E2 Energy Efficiency
EE/RE Energy Efficiency and Renewables
EGU Electricity Generating Unit
EPA Environmental Protection Agency
ESCO Energy Service Companies
ESP Energy Service Provider
FEMP Federal Energy Management Program
IPM Integrated Planning Model
IPMVP International Performance Measurement and Verification Protocol
kWh kiloWatt Hour
M&V Measurement and Verification
MEC Model Energy Code
mmBtu Million Btu
MPCIRF Measurement Protocol for Commercial, Industrial and Residential Facilities
NAAQS National Ambient Air Quality Standards
NATS NOx Account Tracking System
NERC National Energy Regulatory Commission
NOx Nitrogen Oxides
NSR New Source Review
PD1 Program Design 1
PPA Pollution Prevention Act
PUC Public Utility Commission
SBC System Benefits Charge
SIP State Implementation Plan
SO_2 Sulfur Dioxide

EXECUTIVE SUMMARY

EPA is providing states with guidance on designing an energy efficiency and renewable energy set-aside because a well-run set-aside program may lower the costs of compliance of a state's NOx mitigation strategy, and because additional environmental benefits could accrue to the state. By including an energy efficiency and renewable energy set-aside in a state's NOx Budget Trading Program, states can play an active role in encouraging new investment in energy efficiency and renewable energy. An energy efficiency and renewable energy set-aside can accelerate the voluntary adoption of energy efficient and renewable energy technologies by presenting an important opportunity for electricity end users including, energy service companies (ESCOs), commercial businesses, building owners/operators, equipment manufacturers, and federal, state and local government agencies.

The draft guidance Creating an Energy Efficiency and Renewable Energy Set-Aside in the NOx Budget Trading Program: Designing the Administrative and Quantitative Elements is the second of three documents that EPA is issuing to help states design and implement an energy efficiency and renewable energy set-aside[1]. It is intended to assist states that have reviewed the information and recommendations in the first guidance document, Creating an Energy Efficiency and Renewable Energy Set-Aside in the NOx Budget Trading Program: Establishing a Set-Aside, and have decided to include an energy efficiency and renewable energy set-aside as part of their NOx mitigation strategy. In the first guidance document, EPA explains the purpose and benefits of an energy efficiency and renewable energy set-aside, and provides recommendations on the preliminary design elements a state must consider in deciding whether or not to include such a set-aside, and how many allowances the set-aside should contain. In this second guidance document, EPA addresses the subsequent steps a state will need to take in building a set-aside program. The second document explains how to design the set-aside's administrative and programmatic elements, and the procedures for quantifying and awarding set-aside allowances. The third and final EE/RE set-aside guidance, Creating an Energy Efficiency and Renewable Energy Set-Aside in the NOx Budget Trading Program: Measuring and Verifying Electricity Savings, will outline options for states to consider in measuring and verifying the energy savings/displacements that occur from eligible set-aside projects. It is planned for release in Spring 2000.

In each of the guidance documents, EPA presents its recommendations for how to address programmatic elements for an energy efficiency set-aside. However, the guidance documents are not meant to be interpreted to require or mandate any of the provisions discussed. Their primary purpose is to provide information that states may use in the design of an optional set-aside program that will reward energy efficiency and renewable energy actions in a way that supports and enhances the NOx Budget Trading Program. As such, states have the flexibility to adopt the recommendations provided, to design a set-aside program using design elements different from those recommended, or to decline the option of including a set-aside in the NOx Budget Trading Program.

Overview of First Guidance Document

EPA's guidance documents address the key issues for states to consider in designing and implementing an energy efficiency and renewable energy set-aside. Before states begin

1 *EPA will also issue a short addendum to the 1st guidance to clarify how to include combined heat and power projects (CHP) in an energy efficiency and renewable energy set-aside.*

planning the administration and quantification elements of the set-aside, EPA recommends that states review the first guidance document, as well as the initial design framework that they have already established. Decisions about the administration and quantification elements that a state will include in its set-aside program should be made in the context of these earlier decisions.

The first guidance document details the factors that a state should consider in determining the size of the set-aside, what projects will be eligible, and length of time a project must be in place to be eligible for an award. The key questions that the first guidance document addresses include:

1. What types of projects are eligible for awards, and who would receive allowances?
2. Can the pool size be used so that allowance awards to new projects are maximized?
3. How should the pool be sized to include actions implemented before 2003?
4. How does pool size depend on the number of control periods the award will be given for (length of award)?
5. How can states adjust their set-aside pools to handle over and under subscription?

The following table summarizes the recommended approach for the design elements that EPA provides in the first guidance document:

Program Design Element	**EPA's Recommendation**
Size of Set-Aside	*5 -15 percent*
Eligibility of Applicants and Projects	*Not more than one applicant for each project should receive allowances-- allowances should be awarded to end user* *Eligible projects meet the 7 project criteria*
Focusing on "New" Projects	*Pool large enough for "new" & BAU Projects*
Credit for Early Actions	*Yes*
Length of Award	*3 years*
Over-Subscription	*First come, first served*
Under-Subscription	*Pro-rata reallocation*

These program design elements may influence how a state chooses to design the application and allocation processes, as well as documentation, tracking, and reporting mechanisms, and other factors discussed in the second guidance document.

Designing Effective Administration and Quantification Program Elements

In the second guidance document, EPA addresses the various programmatic elements that states will need to determine in choosing the best approach for administering their set-aside. In particular, the second document focuses on how to design the set-aside application

process; how to allocate set-aside allowances to eligible projects; how to translate energy savings and displacements into emissions reductions; the timeframe for processing applications and administering allocations; and the kinds of documentation and reporting that should be required.

In the second document, EPA offers recommendations on the key administrative and quantification program elements. States may adapt the recommended processes, or develop different approaches to meet their own needs. When designing the administrative and quantification framework for their set-aside, states should keep in mind how these procedures will interact with other design elements.

EPA's Design Recommendations

EPA has recommended an approach for each design issue. The following table summarizes EPA's overall recommendations:

Program Design Element	**EPA's Recommendation**
Application Process	*"Two-step" process*
Translating Energy Savings and Displacements into Emissions Reductions	*Emissions factor*
Accounting for BAU Uncertainty	*Compensation factor*
Award Process	*"Seasonal Lag" option*
Timing	*Coordination between all processes*
Documentation, tracking and reporting	*Establishment of appropriate NATS accounts, Periodic and on-going documentation*

Designing the application process

Each state has the flexibility to create its own application process for energy efficiency and renewable energy set-aside allowances, and is responsible for reviewing allowance applications submitted for prospective set-aside projects. An application process should provide adequate data to allow states to accurately review and evaluate requests for allowances, and should also be designed to not impede potential applicants. Additional issues to consider in designing the application process are 1) how the timing of the application process affects the market accessibility of the allowances, and 2) the length of time between the initiation of a project and the timing of the allowance award.

In this guidance, EPA discusses two potential application processes, the one-step option, and the two-step option. Under the one-step process, the set-aside applicant does not obtain official approval until after implementing the program or project and demonstrating the electricity savings. Under the two-step process, by contrast, the set-aside applicant pre-qualifies for the set-aside allowances associated with the program or project, and obtains final approval and allowance allocations after measuring and verifying the actual electricity savings.

EPA recommends that states implement a two-step application process. Although the two-step process entails an additional administrative burden by requiring both a pre-qualification review and final review, EPA believes that two-step approach is more effective than the one-step process because it gives states an early estimate of set-aside participation levels, and consequently, greater certainty. Likewise, the two-step approach gives applicants more certainty because they will know whether their project meets eligibility criteria earlier than under the one-step approach, and they also will be able to ameliorate any problems should the state require modifications to their initial application. Furthermore, the two-step process allows states to plan for over or under-subscription, and to address unexpected developments.

Translating energy savings and displacements into emissions reductions

Only the electricity savings and displacements that occur during the summer ozone season are relevant for determining NOx allowances. An appropriate NOx emission factor, along with other important variables, should be considered in translating energy savings or displacements into NOx emissions allowances. EPA recommends that states use a NOx rate of 0.0015 lbs/kWh. This rate assumes that there is a single SIP Call region-wide NOx emissions factor. A single rate creates a unified awarding system for implementing energy efficiency and renewable energy projects throughout the region. In addition, in the guidance EPA also provides information and recommendations for other variables to include in the calculation.

In translating project results into NOx allowances, states may compensate for the chance that a project would have occurred independent of the set-aside, or has already been accounted for in the NOx SIP Call baseline electricity generation forecasts. In this guidance, EPA refers to these types of projects that would have happened anyway as "business-as-usual" (BAU). States can discount against this possibility, and focus allowance awards towards "better than BAU" projects by using a BAU compensation factor. For example, when quantifying the number of allowances to award a project, a compensation factor would net out an amount of BAU energy efficiency and renewable energy, on a per project basis. As such, the amount of allowances reflects the probability that the claimed amount is BAU activity.

EPA has developed a sample compensation factor based on the ratio between total potential for savings and displacement versus BAU activity. EPA recommends using a BAU compensation factor of 0.75.

Determining when to distribute set-aside allowances to qualified applicants

Each state is responsible for determining when in the annual programmatic cycle to distribute set-aside allowances to qualified applicants and for what allowance year. For example, a state can utilize the energy savings from one ozone control period to determine the allowance allocations for that allowance year, or can use the savings to determine allocations for the *following* year. In this guidance EPA details two different timing options: the "seasonal lag" option and the "same year allocation" option.

There are several considerations that should be thought out in determining when and for what year the allowance awards will be distributed. Because energy savings must be demonstrated before projects receive allowances for their associated NOx reductions, a final determination of the number of allowances to allocate a project can only be made retrospectively, ie at the end of the applicable ozone control period (after September 30). Thus, an energy efficiency set-aside program participant could receive allowances in October of the same year that the reductions took place, at the earliest. At the same time, participants may

want to trade their allowances to other entities within the NOx Budget Trading Program. If program participants receive allowances for that same year, they would thus only have until the end of December to participate in trading, which may not be an adequate period of time. If by contrast, they received allowance for the *next* allocation year, they would have a much longer period of time to trade allowances, and states would also have more time to evaluate and determine the final allocations. As such, EPA recommends that states receive allowances for the following ozone season, as detailed in the seasonal lag option.

Under the seasonal lag option, a project would have to be implemented and in operation for a full ozone season before the state allocates it an award, and are not available for trading until the second ozone season. After measuring and verifying the results of the first ozone season, the project sponsor would then be allocated allowances to be available for trading at the beginning of the second ozone control period that the project is in place. Under the "same year allocation" option, by contrast, allocations are provided for the same year the project is established in the second case. The allocations would be available for trading only for the fall months of the same year the applicant has applied to the program.

The "seasonal lag" option is EPA's recommended approach because it provides greater certainty for the state and program applicants. An exact calculation of program participation and allowance allocations *before* the applicable year. The seasonal lag option also allows states more time for review and approval of applications, and the actual trading period can be spread out over a longer period of time. Likewise, potential allowance buyers will have an understanding of the number of allowances available on the market via the set-aside-- and will be able to more effectively incorporate these allowances into their compliance plans. If the entire set-aside process is to be completed in one year, the monitoring, review, issuance and trading processes would all have to be undertaken in October and November, which puts a greater administrative burden on the state and could limit market accessibility to the set-aside allowances.

Timing

Timing is a critical component of the set-aside, and integrating the application, allocation and trading processes is necessary to most effectively provide incentives for implementation of energy efficiency and renewable energy projects, and to provide the greatest certainty for both the state and the applicant.

EPA recommends that states initiate a program design based on a 3-year length of award, a seasonal lag allocation period, and a two-step application process. EPA believes that this particular combination of options will allow for the application and award processes to flow most easily, and extends the time frame for approving awards and trading allowances. This combination also allows participants to market their allowances earlier than otherwise, and thus, they are able to reap the financial reward from trading allowances earlier and over a longer period of time. States would also have a better sense of the number of allowances to distribute to applicants. And, in the event that the pool is under subscribed, a state will be able to distribute the un-awarded allowances to core sources, on an annual basis, until more projects come online and the pool is fully subscribed. A state will also know in advance if the pool is likely to be oversubscribed and will be able to plan accordingly.

Documentation, tracking and reporting

Documentation, tracking and reporting mechanisms include the development of appropriate NOx Allowance Tracking System (NATS) accounts, and development of additional forms and reports for administrative purposes to be determined by the state. This guidance document provides an overview of what is required when establishing a NATS account, as well as the other mechanisms that EPA believes are necessary for executing a well-run set-aside.

The procedures for reporting allowances under the set-aside are the same as those established by EPA under the NOx Budget Trading Program. The state must open a general account in EPA's NOx Allowance Tracking System (NATS) to hold the allowances for the entire set-aside, and an applicant for allowances must also establish a general NATS account. The allowances will be directly transferred from the state into the project sponsor's account. EPA recommends that the state designate a state energy official, air official, or public utility commission official to be an Authorized Account Representative (AAR) to manage the set-aside allowances.

EPA recommends that most of the necessary set-aside documentation be included in the initial application that a program or project sponsor submits for an award. However, additional pieces of information will need to be exchanged after the initial application is submitted between the state and the project sponsor, and before the project sponsor is awarded credits. A state should provide documentation to the project sponsor when a proposal has been reviewed and deemed acceptable, and if the project is not deemed acceptable, a state should document and provide recommendations for the modifications necessary to make the project eligible for allowances. A project sponsor should provide documentation alerting the state when the project is to be initiated, and also provide periodic updates to the state on the project's progress. Finally, the state should document the project results when they have been measured and translated into NOx emissions. EPA has provided example documentation forms in this guidance that states may opt to use or adapt for their set-aside programs.

Measurement and Verification

To measure and verify electricity savings for the purpose of the energy efficiency and renewable energy set-aside, it is important to follow a consistent set of standards and methods. High quality measurement and verification procedures will help provide assurance that claimed electricity reductions are real. One key element for providing such assurance is to compensate for any uncertainty associated with the project results that may stem from the measurement and verification process. In this guidance, EPA discusses how a measurement and verification discount factor can be included in a state's formula for quantifying electricity savings to account for this uncertainty.

Furthermore, the third guidance document, *Creating an Energy Efficiency and Renewable Energy Set-Aside in the NOx Budget Trading Program : Measuring and Verifying Electricity Savings*, will provide more explicit recommendations and assistance on measurement and verification. The third guidance document will discuss the characteristics of energy efficiency and renewable energy projects that may cause uncertainty in measurement and verification, and will provides an overview of the mechanisms available to limit and/or account for this uncertainty. In particular, the third guidance document will assess the specific protocols available for varied types of energy efficiency and renewable energy projects, and will discuss how states can adapt available methods of measurement and verification in designing their own measurement and verification requirements.

1.0 INTRODUCTION

1.1 PURPOSE

In both the Pollution Prevention Act (PPA) of 1990 and the Clean Air Act (CAA) of 1990, EPA recognizes the significant role that energy efficiency and renewable energy resources play in reducing pollution and achieving the nation's environmental goals. The 1990 PPA facilitates the adoption of specific energy management techniques by businesses, including increasing efficiency in energy use, substituting environmentally benign fuels, and using design approaches that reduce energy demand. Likewise, the 1990 CAA encourages policies that support energy conservation and renewable energy resources, as illustrated in the Acid Rain Title. In addition, the 1990 CAA enlists greater use of market-based controls and incentives to promote energy efficient technologies and practices, which has resulted in the development of EPA's and the Department of Energy's successful Energy Star voluntary programs.

Through these voluntary programs EPA has demonstrated that energy efficiency and renewable energy resources can be effective means for reducing environmental pollution while increasing economic benefits. Likewise, many economic studies have recognized that energy efficiency and renewable energy investments provide broad societal benefits, both economic and environmental, and can result in permanent reductions of fossil-fuel use, a primary cause of pollution emissions. And, as greater penetration of energy efficient products and renewable energy resources occurs through a number of other programs and policies, the air pollution reduction impact associated with these actions is becoming significant. However, air pollution emission reductions from energy efficiency and renewable energy have not traditionally been established in air quality attainment processes. State and local governments have requested that EPA provide additional tools and greater flexibility in determining how they will be able to meet their air quality attainment goals, including some provision for recognizing energy efficiency and renewable energy-related air quality benefits in their air planning processes. In light of these developments, EPA has drafted this guidance document to help states build energy efficiency and renewable energy actions in their programs for mitigating the transport of NOx emissions across state boundaries. In particular, this document is intended to provide assistance to states that would like to recognize and incorporate energy efficiency and renewable energy actions into the emissions trading system that may be available in the SIP Call region, as part of the NOx Budget Trading Program.

This guidance will help states design a functional system in which a portion of their NOx budget within the NOx Budget Trading Program is set aside for projects that displace electricity generation via energy efficiency and renewable energy technologies. This guidance provides EPA's current thinking on the important program elements to include when designing a set-aside, and is consistent with three key goals: (1) to reduce the total economic cost of meeting the proposed NO_x cap; (2) to promote energy efficiency by accelerating the adoption of energy efficient practices and technologies; and (3) to reduce future CO_2 -related liabilities by recognizing the positive impacts of energy efficiency and renewable energy on carbon emissions. An effectively administered energy efficiency set-aside can be a key component of a cost-effective strategy for reducing NOx pollution, preventing ozone formation, and mitigating the transport of NOx emissions across state boundaries.

EPA believes that an effective set-aside will encourage actions that increase the use of energy efficient technologies and renewable energy; and focuses on projects that would not occur without a set-aside. In EPA's opinion, great potential exists for new energy efficiency and renewable energy-based projects, in addition to those actions already happening, which for

purposes of this guidance are referred to as "business-as-usual" (BAU) activity. This guidance explains how to design a set-aside that targets new actions rather than BAU projects.

In addition, EPA believes that a set-aside must maintain the integrity and requirements of the NOx budget. As such, the allowances that are allocated to energy efficiency and renewable energy projects must be provided for from within a state's NO_x budget. The buying and trading of these allowances should not result in the exceedance of the budget in the SIP Call region, in accordance with the set-aside provisions established in the NO_x Budget Trading Program Rule. This set-aside guidance will help states create a program that is consistent with all of these principles.

This guidance assumes that the reader is familiar with the details of the NO_x Budget Trading Program as outlined in EPA Final Rule, 40 CFR Parts 51, 72, 75, and 96 *Finding of Significant Contribution and Rulemaking for Certain States in the Ozone Transport Assessment Group Region for Purposes of Reducing Regional Transport of Ozone*. EPA had intended to provide ample flexibility in designing a set-aside approach, consistent with the final rule. As indicated in the final rule, the set-aside can only reward energy efficiency and renewable actions that affect stationary sources in the NO_x SIP Call region, and does not include actions in transportation or other mobile sources.

1.2 HOW THE SET-ASIDE GUIDANCE IS ORGANIZED

EPA has organized the set-aside guidance into three separate documents. This is the second of the three documents. The first set-aside guidance document, *Creating an Energy Efficiency and Renewable Energy Set-Aside in the NOx Budget Trading Program : Establishing a Set-Aside*, focuses on the elements necessary for a state to consider in determining whether or not it will do a set-aside. It includes a discussion on what types of projects are eligible for set-aside allowances, and how to decide upon an accurately sized set-aside pool. These are the critical elements that must be determined in order to include the appropriate information related to the set-aside that must be submitted in a state's SIP submission.

This is the second set-aside guidance document, *Creating an Energy Efficiency and Renewable Energy Set-Aside in the NOx Budget Trading Program : Designing the Administrative and Quantitative Elements*. It focuses on the key design elements that are necessary for quantifying and allocating allowances under a set-aside. In particular, the second guidance document discusses how to design the set-aside application process, how to allocate set-aside allowances to eligible projects, how to translate energy savings and displacements into emissions reductions, how to direct allowance awards towards "new" projects above BAU, the timeframe for processing applications and administering allocations, and the kinds of documentation and reporting that will be needed. These design elements a state can determine after their initial SIP submission, but should be decided upon before the set-aside begins.

The third set-aside guidance document, *Creating an Energy Efficiency and Renewable Energy Set-Aside in the NOx Budget Trading Program : Measuring and Verifying Electricity Savings*, discusses how to create a framework for measuring and verifying energy savings from projects that the state has approved for set-aside allowances. The measurement and verification guidance document will provide an overview of the protocols that are currently available for measuring and verifying energy savings, such as the *International Performance Measurement and Verification Protocol*, EPA's *Conservation Verification Protocol*, and the *New Jersey Measurement Protocol for Commercial and Industrial Facilities*. EPA will discuss how

states could apply these protocols to their set-aside, given the variety of energy efficiency and renewable energy projects most likely to be submitted for allowances in the state.

All three guidance documents have been developed through the efforts of a workgroup that EPA convened with state and regional representatives. This group worked for over a year to research design elements and to develop options for promoting energy efficiency and renewable energy actions in the context of the NO_x Budget Trading Program, as it was being developed by EPA. The workgroup also tested the workability of the systems by applying the approaches outlined in the guidance using data and information from real projects. The principal elements of this guidance were reviewed both by the workgroup.

Although this document represents draft guidance for the purpose of designing an energy efficiency and renewable energy set-aside as part of the NO_x Budget Trading Program, once finalized, it may be revised periodically to reflect lessons learned through the state implementation of the guidance. In addition, where provisions are not specifically addressed in the efficiency set-aside language, design elements from the overall cap and trade program may apply.

1.3 USING THIS GUIDANCE

This guidance document is divided into eleven chapters which explain the key issues to be considered in creating the administrative and quantitative elements of a set-aside, such as the steps for states to take in designing the allocation and administration processes of the set-aside. The information discussed in each section is as follows:

Chapter 2, entitled Overview of the Administration Elements for a Set-Aside, discusses the necessary program elements for administering a set-aside, and explains why each is important. It focuses on what states need to take into consideration when determining their overall approach for administering the set-aside, outlines the tasks and actions necessary for administering the set-aside, as well as the information that the state would need to exchange with project sponsors/applicants to do so.

Chapter 3, entitled Designing the Application for Set-Aside Allowances, outlines the various issues to be considered when designing the set-aside application. It specifically details the information that should be included in the application, and how to choose which office at the state will process and evaluate applications. Furthermore, the chapter discusses how to create application evaluation criteria at the same time that the application process is developed, so that all qualified applicants and projects meet uniform eligibility requirements. In addition, the chapter details two timing options for processing applications, which are based upon the time and resources required for each step of the application review process.

Chapter 4, entitled Translating Energy Savings into NOx allowances, outlines how to convert energy saved into emissions reductions. The chapter discusses how to create a NOx Allowance Calculation formula to quantify the number of NOx allowances a project will receive, once the associated energy savings have been measured and verified. The chapter begins with an explanation of the relationship between energy use and NOx emissions, then discusses how to use a NOx Emissions Factor to determine the rate at which NOx is displaced, per the amount of energy saved. In addition, the chapter discusses how a state may choose to account for potential uncertainty in measuring and verifying a project's energy savings and displacements, and how a state can compensate for business-as-usual activities as part of its allocation process. At the end

of the chapter, a sample allowance calculation is provided, given each of the previous considerations.

Chapter 5, entitled Renewing Allocations within a Multi-year Award Period, discusses how to adjust a project's allowance allocation given potential changes in energy savings over a multi-year allowance award. Because energy savings may not necessarily stay the same during the project's life-span, this chapter outlines why energy savings might decline over time, and how to accommodate for such changes when allocating allowances in subsequent award years.

Chapter 6, entitled When to Distribute Set-aside Allowances, discusses how to consider the timing for the application, allocation and trading processes in determining when in the annual programmatic cycle to award allowances to the applicant. As such, this chapter includes two timing options for awarding awards, given the amount of time the state believes will be adequate to properly administer the set-aside and to allow for allowance trading.

Chapter 7, entitled Putting it All Together: Integrating the Administrative Processes, addresses all of the design options discussed so far, by including a sample program design based on EPA's recommended approach for each of the administrative processes discussed in the first and second guidance documents.

Chapter 8, entitled Creating Application Forms and Other Documentation, Tracking and Reporting Materials, builds upon the discussion of the application process detailed in Chapter 3. This includes a description of general considerations in designing application forms, as well as an overview of the types of forms and materials necessary for both a one-step and a two-step application process. In addition, this chapter explains how to set up appropriate accounts in EPA's NOx allowance tracking system (NATS).

Chapter 9, entitled Explaining the Program to Applicants, discusses how to convey the necessary steps for applying to the program to set-aside applicants, once the state has determined each of the program elements discussed in this guidance thus far, as well any additional program requirements. This includes how to create communication tools, such as a procedures manual on the general program requirements, or other instructions, to distribute along with the application.

Chapter 10, entitled Conclusion: Integrating Measurement and Verification, wraps up the key elements of this guidance document, and provides an overview of the final considerations in developing an energy efficiency and renewable energy set-aside which will be discussed in the third guidance document.

2.0 OVERVIEW OF THE ADMINISTRATIVE ELEMENTS OF THE SET-ASIDE

This guidance document addresses the critical programmatic elements for administering a set-aside, including designing the application forms and other documentation and reporting materials, and how to review applications from project applicants, verify energy savings, translating energy savings into emissions reductions, and finally, awarding allowances to project applicants. This section details the overarching considerations for states to bear in mind when designing these processes, including why EPA believes an efffectively adminstered set-aside is important.

2.1 Initial considerations

The first step that a state should take in designing the administrative processes is to estimate the total time and resources that they will have available for administering the set-aside. This will allow the state to plan accordingly when determining each administrative program element. Likewise, the state should also determine what agency will be administering the set-aside. A state can choose either an energy or air quality office, or officials from both to administer the set-aside. In addition, the state should designate an Authorized Account Representative (AAR) to the NOx Allowance Tracking System (NATS) to manage the set-aside allowances as soon as possible.

EPA also recommends that the state become familiar with the types of projects in their state that will be applying for set-aside allowances. This will give the state a sense of the timeframe necessary for a potential project sponsor to fully implement an energy efficiency project, given the variety of projects most likely to be initiated. When determining the timeframe for allocating and awarding allowances, it is important to have a realistic estimate of the necessary timeframe for a project sponsor to implement a new project from start to finish, in addition to the timeframe required for project sponsors to apply for an award.

2.2 Why each administrative process is important

By setting aside a pool of allowances for energy efficiency and renewable energy projects from within a state's NOx budget, state air officials are in a position to catalyze greater implementation of these technologies. As discussed in EPA's first guidance document, a set-aside can be a key element of a low-cost pollution NOx reduction strategy. Furthermore, an energy efficiency and renewable energy set-aside will help these actions gain leverage as viable and cost-effective pollution reduction measures, and as alternatives to traditional post-combustion NOx controls. The most effective energy efficiency and renewable energy set-aside programs will be ones that encourage new adoption of these types of investments. At the same time, EPA believes that only a properly designed and operated set-aside will be effective in catalyzing new investments and in maximizing the associated environmental and economic benefits for the state. Likewise, a poorly designed and operated set-aside may ultimately limit this potential.

In general, a set-aside should be administered in a timely and efficient manner, and should be able to adapt quickly should any unexpected shortfalls arise. If either the application or allocation processes are long, unreliable, or otherwise unclear, the state runs the risk of hindering potential projects. In designing their set-aside program, the state should feel confident that when the set-aside is in operation emissions reductions are real and accurately measured.

2.3 The Role of the State and the Role of the Applicant

It is EPA's opinion that each state should have the opportunity to design a set-aside that is suited to their particular needs and interests, and that each state should have full autonomy in administering the program. As such, whether or not states decide to adapt the recommended program elements outlined in this guidance, there are several basic tasks that each state will undertake in administering the set-aside. Once the set-aside is underway, the state's role in administering the set-aside is making sure that the allowances are accurately distributed to qualified projects. Thus, based upon the programmatic requirements they design, each state will independently review the allowance applications from prospective applicants, notify applicants when applications have been received and processed, determine allowances awards, and distribute the allowances to program participants.

The state is not obligated to directly monitor or visit each of the projects submitted for allowance awards, to determine that information submitted is accurate. However, applicants should be responsible to the state for submitting any required forms or materials to the state as requested, and in a timely manner, and should sign an application agreement to confirm that they will do so. EPA recommends that the state establish program requirements and a protocol for project applicants to follow in monitoring and verifying emissions reductions. As such, the state should be able to adequately process the applicant's submittals, evaluate the methodology used by the project applicant in quantifying their project's energy savings, and all other all documentation and reporting materials. In addition, EPA recommends that state's develop a procedures manual to explain program requirements to applicants, as well as additional assistance and oversight to those applying for allowances to help the set-aside flow as smoothly as possible.

Given these responsibilities, EPA believes that a successful set-aside requires a sufficient understanding of the timeframe and resources required to do so up front. At the same time, EPA is confident that with adequate planning states will be able to design effective programs that can be operated with administrative ease. The subsequent chapters of this guidance outline the specific administrative and quantitative processes associated with a set-aside program, so that each state can determine what will be the most effective program elements. To assist in this effort, in Table 2 on the next page, EPA has listed the general responsibilities and steps necessary for the state to administer the set-aside, and for those who will be applying for allowances as part of the set-aside program.

Table 1: Program Responsibilities and Actions

State	Applicant
▪ Entering into an Application Agreement with the applicant.	▪ Committing to an energy efficiency project at its facility.
▪ Reviewing all project applications.	▪ Developing adequate project documentation.
▪ Overseeing program implementation, quality assurance, and budgeting.	▪ Completing project installation.
▪ Reviewing participant M & V plans for determining energy savings.	▪ Entering into an Application Agreement with the applicant.
▪ Providing oversight of all M & V activities.	▪ Submitting required application materials and forms in accordance with program procedures and deadlines.
▪ Establishing a general NOx Allowance Tracking System (NATS) account and representative.	▪ Performing M & V activities according to established guidelines and documenting claimed energy savings.
▪ Transferring allowances in the NOx Allowance Tracking System to approved/demonstrated applicants .	▪ Establishing a NOx Allowance Tracking System account.
▪ Conducting inspections to verify validity of all approved applications. (optional)	▪ Providing access to its facilities both before and after project completion to allow inspections and verify energy savings performance. *(optional)*

3.0 DESIGNING THE APPLICATION PROCESS

The first step in designing the programmatic framework for administering an energy efficiency set-aside is to design the application process. This includes deciding upon the types of information to request from applicants to adequately process and review each applicant's request for set-aside allowances, choosing who will review applications, and determining what types of actions qualify for set-aside allowances. In addition, the state should decide upon application deadlines, and when the state will review and evaluate the applications.

In this chapter, EPA provides an overview of the type of information to request in the application, as well as how to create program requirements for eligibility to the program. EPA includes a table of potential actions that could qualify for energy efficiency actions and sample hypothetical projects that could be similar to those applying for allowances in the set-aside program. In addition, EPA details two application processing options, based on when in the annual programmatic cycle the state will request and review the applications.

3.1 Application Information

Each state can determine what information to include or request in the application for their particular set-aside. An application for energy efficiency and renewable energy set-aside allowances should provide adequate information for the state to evaluate and process each applicant's request. To accurately assess projects submitted for allowances, EPA recommends that, at a minimum, the application include the following items:

Figure 1. Set-Aside Application Information

- Entity/organization applying for the allowances;
- Contact name, address, and phone number;
- Description of activity and/or project undertaken creating potential allowances, including implementation year and expected lifetime;
- Electricity savings or generation (kWh) and supporting calculations;
- Explanation of monitoring and verification method;
- Historical data on baseline energy usage. Data for three ozone seasons is recommended;
- Verification that all information submitted is accurate and reliable.

Furthermore, the application should provide the state with the necessary information to confirm upon receipt of a completed application that no other entity is claiming allowances for the same project. In addition, the applicant's submittal should demonstrate as well as that the project meets eligibility criteria (to be determined by the state), and some explanation of the applicant's baseline energy usage and projected energy savings, and how energy savings will be measured and verified.

In Chapter 8, EPA provides a detailed discussion on how to design application forms based on the information outlined in Figure 1. Sample application forms are attached in Appendix C. This discussion may be of assistance to states when designing the framework for processing applications. EPA also recommends that states require applicants to submit an

application agreement as part of the application, to verify that all information provided in the application is accurate. A sample application agreement is also included in Appendix C.

3.2 Determining Eligibility Criteria and Requirements

EPA believes that a successful set-aside program will be designed to allow a maximum number of energy efficiency and renewable energy project sponsors participate. As such, a variety of types of projects and actions should be eligible for allowances, including standard measures such as lighting, HVAC, and motors retrofits, and certain custom measures. It is up to each state to determine what will qualify as a standard measure. Likewise, less common measures could be reviewed on a case-by-case basis, such as industrial process upgrades and new construction. At the same time, it is important to establish eligibility criteria so that all projects applying for allowances meet the same standards, to provide parity between all applicants regardless of the type of measure they have implemented. When deciding upon the information to request in the application, EPA recommends that states also consider establishing uniform eligibility requirements. This way, the information requested in the application forms will reflect these eligibility criteria, which will aid applicants in the submittal process, as well as the state in reviewing them.

In EPA's first guidance document, *Establishing an Energy Efficiency and Renewable Energy Set-Aside*[2] EPA provided general recommendations for determining the types of energy efficiency actions and entities that should qualify for set-aside allowances. In that document, EPA stated that while it is up to each state to determine who and what types of projects qualify for allowances, it is important that the set-aside provides allowances only for reductions/ displacements of electricity use. As such, in that guidance, EPA recommended that states follow seven major criteria that projects must meet in order to be eligible to be awarded with energy efficiency and renewable energy set-aside allowances, as detailed in Table 2:

Table 2. Set-Aside Eligibility Criteria

In order to be eligible for allowances, the project or action must:	
1.	Reduces/displaces electricity load from core source EGUs in the SIP Call region
2.	Is not required by Federal government regulation
3.	Is not/will not be used to generate compliance or permitting allowances otherwise in the SIP
4.	Is in operation in the year(s) for which it will receive allowances
5.	Reduces/displaces energy during the summer ozone season
6.	Is measured and verified in accordance with methods outlined in this guidance; and
7.	Translates into not less than one (1) ton of NOx allowances, or can be aggregated with other projects into one-ton increments of NOx allowances.

2. *Creating an Energy Efficiency and Renewable Energy Set-Aside in the NOx Budget Trading Program: Establishing a Set-Aside.* Pages 20-22

EPA believes that these project criteria are necessary for the development of an effective energy efficiency and renewable energy set-aside within the context of the NOx Budget Trading Program, and are important for maintaining the integrity of the NOx budget. Beyond these guidelines, EPA recommends that states develop a list of more specific qualifications and actions, and distribute the list as part of a procedures manual or with other application materials. This will give applicants an idea about whether their project will be eligible for allowances up front. For purposes of this guidance, EPA has culled a list of technologies that could potentially qualify for set-aside allowances, though it is up to each state to make the final determination of the actions that qualify. EPA's list is based on the eligible actions from several existing standard performance contracting programs, and is included in Table 4. The list of actions are separated into three categories based on actions involving:

1. Lighting technologies
2. Heating, ventilation, and air conditioning (HVAC) and refrigeration
3. Motors and other technologies

In addition, EPA also includes a list of technologies that are not recommended for consideration in a set-aside.

Combined Heat and Power

Recent developments have generated renewed interest among both government and private sector companies in combined heat and power (CHP) systems, or cogeneration, as new technologies have greatly expanded the range of cost effective CHP applications. EPA includes CHP in its definition of eligible efficiency projects that states can choose to include in their NOx set-aside programs.

CHP achieves improved energy conversion efficiencies by using on-site fuel input to simultaneously produce electricity and thermal energy (heat). Heat output that would otherwise be lost in electricity generation is captured and is used for industrial processes such as the paper, chemical, oil and food industries, or district heating applications. Compared to typical industrial boilers and electricity generating facilities, which convert 30% to 40% of the fuel to useful energy, combined heat and power plants can achieve efficiencies of 60% to 80%.

The emissions benefits of CHP, as an efficiency technology for electricity generation, are substantial, but depend very much on each site's energy needs and fuel choice decisions.

Table 4: List of Potential Eligible Technologies for Set-Aside Allowances

Lighting Technologies

- Lighting efficiency projects
- Daylighting
- Lighting controls projects

HVAC and Refrigeration Technologies

- Chiller replacement projects
- Air cooling and refrigeration compressor Replacement projects
- Air cooling and refrigeration compressor Replacement projects
- Packaged cooling unit replacement projects
- Variable air volume conversion projects
- Air side economizer projects
- Water side economizer projects
- Comfort cooling air handler motor efficiency upgrades
- Air handler variable speed drive installations
- Heating and cooling related savings from energy management systems
- Cooling tower motor efficiency upgrades
- Cooling tower motor variable speed drive installations
- Constant speed ventilation
- Evaporative cooling and pre-cooling
- Exterior and interior window shading in air
- Special window glazing and glazing treatments in air conditioned buildings
- Hot-spot ventilation in air conditioned buildings (such as attic vents and fans)
- Heat transfer (including heat pumps) to heat Sinks, such as ground source cooling in air Conditioned buildings
- Projects that upgrade the efficiency or controls of heating equipment
- Refrigerated case door projects

Motors/Other Energy Efficient Technologies

- Variable speed drive installations on industrial fans and pumps
- Industrial process applications
- Projects improving building hot water efficiency
- Cogeneration or Combined Heat and Power (CHP) projects

Technologies not recommended for eligibility under the NOx SIP Call EE set-aside program

- Actions with a measurable lifespan of less than 3 years
- Measures that do not meet federal and state minimum standards
- Actions that save energy because of operational changes
- Load shifting technologies
- Measures that do not reduce electrical consumption
- Fuel switching projects
- Measures that are removable without the use of tools

In general, when applying for allowances in the set-aside program, the applicant would need to describe pre- and post-installation energy savings for the relevant summer ozone

season (May 1-September 30), detail the lighting and/or other equipment that was upgraded, and the associated energy savings for each. Furthermore, it may be helpful to states to know the source of the energy savings. Energy savings could be a result of the replacement of equipment with more efficient (or properly sized) equipment that provides the same level of service or the same output, or, by utilizing measures that eliminate unnecessary operating hours or other variable end-use requirements.

Furthermore, projects being submitted for allowances may include several types of energy efficiency or renewable energy actions. As such, it may be important for states to be able to piece out each of the different measures that make up the project that is being submitted for allowances, first for determining the project's eligibility, and once a project has been approved, to determine its energy savings. To help states begin thinking about each of these considerations, EPA is providing the following brief case studies, derived from actual energy efficiency retrofits and upgrades, to illustrate realistic projects that may be similar to those that would likely be submitted for allowances.

- **Office lighting retrofit**

A financial institution with locations throughout the state of Maryland initiates lighting retrofits at a total of 2.5 million square feet of retail branches, administrative office buildings, and data centers. They replace 4500 176-wattage lighting fixtures with energy efficient lighting that use only 70 watts to deliver the same light output. In addition, they install several thousand energy efficient T8s and electronic ballasts. To maximize these savings, they also installed lighting occupancy sensors which are programmed to power down during non-use periods. In total, they save 2.8 million kWh per ozone season.

- **Commercial building envelope retrofit**

A retailer completes a variety of energy efficient retrofits at a number of different store locations. They install lighting upgrades at 170 stores, including installation of compact fluorescent lighting. In addition, they initiate full building envelope upgrades at 40 stores, such as energy management systems, energy efficient HVAC and windows, and LED exit signs. In particular, at most of these stores, they downsized their cooling systems from the original (and oversized) systems by installing smaller pumps and installing low-e glass windows to cut down on their heating and cooling load. In total, the retailer saves 4 million kWh per ozone season.

- **New residential construction**

A developer of energy-efficient homes constructs several subdivisions of homes. The homes, all of which have the same basic floor plan, meet the national model energy code for insulation and equipment. For 80% of the homes, the developer upgrades the windows, seals and insulates the ducts, seals the homes against infiltration of outside air, improves the water heater efficiency, and installs programmable thermostats. The result is approximately 30% savings from those of a typical house meeting the model energy code. For the remaining 20% of homes constructed, in addition to these upgrades, the developer decides to strive for an even higher level of efficiency. In these homes, the developer installs a high-efficiency gas furnace and water heater, energy efficient lighting (T8s, compact fluorescents, photocell/motion detectors on outside lighting) and energy efficient appliances (including Energy Star refrigerators, horizontal-axis washers, and smart-logic dishwashers). Altogether, the developer builds 4500 homes, and saves 1.4 million kWh of energy per summer ozone season relative to standard efficiency.

- **Industrial Plant Retrofit**

An industrial plant, which employs 400 people, manufacturers $18 million worth of linear position and pressure transducers each year. Electricity powers the majority of the process related equipment, air conditioning, and lighting. Natural gas is used for space heating and hot water, about 10% of total energy use. The plant owner initiates energy efficiency retrofits that include replacing five chillers with a single unit sized to match the system load, replacing lamps and ballasts, installing reflectors in fluorescent fixtures, reducing the lighting operating hours for unoccupied areas. In addition, the company used a time clock controller to reduce the operating hours of hot water circulation pumps, insulating hot water lines, replacing 14 motors with high-efficiency replacements, and repairing leaks in the compressed air line. In total, the plant saves approximately 2.4 million KWh per year.

3.3 Other eligibility considerations

EPA also recommends establishing timing criteria, such that for a given year, all applicants are submitting set-aside allowance applications for the same ozone control period. Thus all projects must have demonstrated electricity savings during that season. For example, if two hypothetical projects are submitting applications at the same time, one should not have the option of receiving allowances for the previous ozone control period and the other project for the next ozone control period. While the two projects could have been initiated in different years, EPA recommends that both projects receive allowances for the same period.

Likewise, if a state chooses to make projects initiated before the set-aside program is established eligible for allowances, it is important that there is parity between applicants seeking credit for these "early" projects and all other applicants applying at the same time. Furthermore, EPA recommends that all projects should be in place and in operation for the current year that allowances are being issued, regardless of when the project was initially implemented. As such, if the project was in place before the set-aside program is established, but is no longer operational, it would be eligible to receive allowances.

3.4 Choosing an office to review applications

Each state must decide which of its offices will be responsible for reviewing applications. EPA recommends that state (and/or local) air and energy offices work together to evaluate and process the applications, each office performing the tasks relating to its area of expertise. The state energy office is often the best resource for reviewing and determining electricity savings, while the state air office might be the better choice for determining the allowances associated with the project's electricity savings. The offices responsible for certifying the allowances must coordinate with EPA to ensure that allowance awards are included in the NOx Allowance Tracking System (NATS). For additional guidance on how to set up NATS accounts, please see Section 8.4.

3.5 Application processing options

In deciding upon the information the state is going to request from set-aside applicants in the application, and who will be reviewing applications, the state should also determine when, and how, it will choose to review and approve applications. Although the final number of allowances that a project will receive can only be determined after the project has been

operational for a full ozone control period, and after energy savings have been measured and verified, states can choose to review applications before the ozone season has ended. This allows the state to inform applicants that they will be receiving allowances before the final number of allowances to be allocated to the project is actually known. Depending on its priorities and resources, a state may prefer to conduct an initial review before the completion of the ozone control period (the final calculation of allowances would be determined in a second review later). Or, state may prefer to evaluate the entire application all at once, at the end of the ozone control period for which project applicants are applying for allowances. This preference will determine whether the state will administer a "one-step" or a "two-step" application process approach.

If a state chooses to administer a one-step approach, set-aside applicants would not obtain official approval and allowance allocations until *after* they have implemented the project. But if the state choose to administer a two-step application process, by contrast, applications would be reviewed *prior* to the ozone control period. The applicant would be notified that they qualify for set-aside allowances *before* they conclusion of the ozone control period for which they are applying for allowances, although they would not be granted *final* approval and allowances until *after* verifying the actual electricity savings.

The one-step approach is designed so that the state only needs to review the applications once. Under the two-step approach, the state reviews the applications twice. The two-step approach would give applicants and the state a sense of what projects will receive allowances for their project earlier than the first option. While the one-step option requires less administrative resources and time to review the applications being submitted for set-aside allowances, it also reduces the level of certainty for both the state and project applicants. Detailed flow-charts outlining the one-step and the two-step processes are included in Chapter 8, as well as a discussion of the application forms and reporting materials required for both.

When designing an application process framework, EPA also recommends that states keep in mind how the administrative responsibilities associated with the application process will interact with the amount of time and resources required for administering the other components of the set-aside program, including those discussed later in this guidance. In particular, when choosing between a one-step and a two-step application process, states should consider how each of these options could be combined with the allowance award timing options presented in Chapter 6, the "same-year" and the "seasonal lag" allocation option.

- **The one-step application process**

  Under the one-step process, applications are reviewed after projects have been in place for a complete ozone control period. A set-aside applicant is granted official approval for obtaining allowances after the project is implemented for the entire summer ozone season, and electricity savings are demonstrated. As such, the set-aside applicant would not know if their project qualifies for allowances before initiating the project.

- **The two-step application process**

  Under the two-step process, applicants would notify the state of their intention to claim set-aside allowances. At this time, the applicant would provide a basic description of the project, a projection of the expected savings, and how the savings

will be measured and verified. The project may or may not be implemented at the time this initial application is submitted.

Following receipt of this initial notification from the applicant, the state would review the application to ensure that the applicant meets eligibility criteria and program requirements. Once the state informs the applicant that the project has been approved, the applicant would initiate the project (if it is not already in operation), and would submit information to the state that confirms that the project is in place. The state could then estimate the expected emissions reductions associated with the project, and would notify the applicant that the application meets eligibility requirements. In addition, the state could "reserve" allowances for the project, based on the estimated energy savings in the initial application and notify the applicant of the expected amount. The number of allowances that an applicant would receive would not be final until after the ozone control period, contingent upon demonstrated summer energy savings results, submitted to the state at the end of those months.

At the end of the ozone season, the second-step actions begin: the applicant reports their measured and verified energy savings to the state. After the state has received this information, the state would evaluate their results to ensure accuracy, and then issues the allowances to the project applicant.

3.6 Deciding between the one-step and the two-step application process

The primary difference between the one-step process and the two-step process is the level of confidence that each poses for the state and the applicant applying for awards. A state may want to have an accurate estimate of the number of projects qualifying and applying for awards as soon as possible. Likewise, it might be important to applicants to know beforehand that they will in fact be receiving allowances for projects they are submitting applications for. Under both process options, the state reviews the project application to certify that it meets eligibility criteria. If the criteria are met, the State awards the applicant allowances for the appropriate ozone season. If the criteria are not met, the state denies the application and does not award any allowances to the project. Depending on the time in the annual programmatic cycle that the state issues their allowance awards, applicants whose projects have been rejected may be able to correct deficiencies and resubmit the application for the same year, or for the next allocation period. EPA recommends the two-step application process because it reduces the potential uncertainties associated with a one-step process. Under the two-step application process, the applicant has the opportunity to correct any deficiencies with the project before losing out on the allowances, should the project not meet approval criteria.

The one step process provides less or no certainty for applicants that they will receive the expected amount of allowances for projects pursued. As a result, applicants may not be able to depend upon revenues from the potential sale of allowances before proceeding with the energy efficiency or renewable energy project. Of course, a project applicant could reduce uncertainties by initiating discussions with the state prior to the project to learn more about the eligibility criteria, to familiarize the state with the activity/project, and to begin obtaining unofficial approval for the allowances. However, a state may not have the time or resources to provide this kind of unofficial guidance, and establishing a more structured approach may be more realistic.

Likewise, there are some drawbacks to the two-step process, namely, those that are associated with the additional administrative requirements necessary for administrating a two-step process. In particular, because the pre-approval and final review are conducted at different

times, there is a possibility that each step could be conducted by a different person or team. This could slow down the review process, as it would take additional time for the new person or team to learn about the project before they could conduct the final verification. This risk is minimized in the one-step application process, since the entire review is conducted at one time. Likewise, one review cycle would also reduce the paperwork for both the state and the applicant. Nonetheless, because of the greater certainty that the two-step process provides to both the state and the applicant, EPA believes that the benefits of the two-step process outweigh these potential disadvantages.

4.0 TRANSLATING ENERGY SAVINGS INTO NOx ALLOWANCES

This chapter of the guidance discusses how to quantify electricity savings and then translate electricity savings into an associated number of NOx allowances. The chapter begins with an overview of the relationship between energy savings and emissions reductions and then explains how to determine a project's relevant energy savings by separating out the pertinent energy savings from those that may have occurred at other times of the year.

Next, EPA outlines how to establish a methodology, or formula, for converting energy savings into an associated number of NOx allowances, once an accurate estimate of the energy savings for the relevant ozone control period has been quantified. The amount of energy savings, plus an emissions factor, are the fundamental components of a NOx allocation formula. EPA discusses how to formulate an emissions factor, which can be used to calculate the rate at which emissions are reduced, per Btu of energy saved. In addition, EPA shows how measurement and verification imprecision and business as usual projects can be also be compensated for in the NOx allowance allocation formula. Finally, the chapter illustrates how to put each of these factors together by providing a hypothetical calculation.

4.1 The relationship between energy use and NOx emissions

There are two pieces of information that are necessary to calculate the amount of NOx associated with a certain amount of electricity saved or displaced. First, the amount of electricity saved or generation displaced during the summer ozone season must be quantified. Second, a NOx emissions factor, which is the rate at which NOx is emitted per the type of fuel used to generate the electricity saved or displaced, must be determined. The product of these two values is the foundation for a state's formula for converting energy savings into allowances. The formula for converting energy savings into allowances is the focus of Chapter 5 of this guidance. In addition, Chapter 5 will illustrate how to best determine the amount of electricity saved/displaced, by adding additional factors to this initial formula.

4.2 Quantifying the amount of electricity saved or displaced

Because the period of compliance for sources in the NOx Budget Trading Program is the summer ozone season, only the electricity savings and displacements that occur during the summer ozone season (May 1 through September 30) are relevant for the purposes of determining NOx allowances. Thus, electricity savings that occur outside the ozone season, i.e. between October 1 and April 30, are not counted toward the achievement of the NOx emissions cap. Therefore, states and EPA should not grant allowances for energy savings occurring outside the summer ozone season. It should be noted however, that although only ozone season reductions count towards allowances, many energy efficiency and renewable energy projects continue to provide benefits such as emissions reductions, cost savings, and job growth throughout the entire year.

There are two options to identify eligible electricity savings and displacements during the ozone season: (1) use information specific to the summer ozone season, or (2) pro-rate annual savings or displacement amounts. Regardless of which option a state uses, it should establish a pre-activity baseline, preferably based on similarly measured data from the previous three years.

The first method, tracking summer ozone season specific information, usually involves obtaining *monthly* data from the May 1 through September 30 time frame that may be available for programs and projects that are in place and appropriately measured or metered. When such data is available, EPA highly recommends that states require it as the basis for calculating NOx allowances. The second method, converting *annual* savings and displacement amounts into summer ozone season savings, may be used when summer-specific monthly information is not available. In such cases, estimated annual savings may be apportioned into an estimate of the energy savings during the summer ozone season. However, this method is less preferable because there is a greater possibility that the calculated savings or displacement may not be as accurate for the summer ozone season as the first method.

The second method, calculating summer ozone emissions reductions from annual energy savings and displacements, requires developing a formula that will separate out the amount of the energy savings or displacements that occur during the summer ozone season. For activities which have consistent annual savings, one common method is to take five-twelfths (amount which correlates to the five months of the summer ozone season divided by the twelve month in the year) of the annual energy savings or displacements. Calculating summer ozone season emissions reductions from energy savings due to energy efficient computer equipment in a commercial business operation is one example where applying the five-twelfths factor is appropriate.

There are other examples, however, where applying the five-twelfth factor is not an appropriate means for stipulating summer emissions reductions from annual energy savings data. This is the case when energy savings or displacements do not occur on a consistent basis throughout the year, such as when they occur exclusively during the summer ozone season, or only partially or not at all during the summer ozone season. Likewise, the timing and amount of energy savings and displacements can also vary by climate zone. For example, an energy efficient air conditioner will result in energy savings which mainly occur during the summer ozone season. Therefore, most of the energy saved by these types of projects would be eligible for allowances. Taking five-twelfths of the annual amount of energy used for air conditioning would most likely underestimate the actual amount of energy savings and emission reductions which can be attributed to an energy efficiency air conditioner during the summer ozone season. Conversely, improvements in heating efficiency will have no effect on energy use during the ozone season. Therefore such projects should not be granted set-aside allowances. As a general rule, states should consider the effects of seasonality on the energy savings and displacements claimed by applicants, and factor this into their calculations of summer ozone season savings and displacements.

4.3 Using a NOx emissions factor

As discussed in section 5.1, a NOx emissions factor can be used to convert energy savings into emissions reductions. There are two options that states can consider in creating an appropriate NOx emissions factor: use of either a single region-wide factor, or use of multiple factors for sub-regions within each state. EPA recommends that states use a single SIP Call region-wide NOx emissions rate of 0.0015 lbs/kWh.

The first option bases the single NOx rate on a typical average system heat rate of 10,000 btu/kWh and the NOx emissions limit of 0.15 lbs/mmBtu that was set out in the SIP Call rule for reducing regional transport of ozone. A single, region-wide rate has the advantage of being simple to administer since it creates a uniform system for rewarding energy efficiency and renewable projects across the SIP Call region. Using one rate also replicates the SIP Call-wide

rate that the electricity grid needs to attain under the projected demand. However, it may over or understate emission reductions for particular states since it does not fully capture the variations in local NOx emission rates.

The second option would establish marginal NOx rates for North American Electric Reliability Council (NERC) sub-regions, within the SIP Call region. This results in a set of 13 NOx rates (expressed in lbs. NOx/kWh), one for each sub-region, more closely approximating state-specific NOx emissions rates. It is a more technically accurate measure than the first option. By using a dynamic dispatch model, such as the Integrated Planning Model (IPM), to develop these factors, this method can more closely approximate state-by-state differences by more accurately capturing the generation mix, imports, and exports occurring across different NERC sub-regions.

The second method also more closely tracks the marginal NOx rate of units being Abacked off@ than the first method, due to lower load demand created by energy efficiency and renewable energy measures. However, there is a possibility that load reductions in some NERC sub-regions (e.g., a net electricity exporting area) may not result in a reduction in generation in that specific sub-region, but in the net importing sub-region, making energy efficiency actions in exporting areas uncreditable. Furthermore, states may find the second option to be more cumbersome to implement compared to the first option, because of the range of different NOx rates. This is particularly true for a state with multiple sub-regions.

4.4 Compensating for Business-As-Usual (BAU) Projects

The goal of the energy efficiency and renewable energy set-aside is to reward real savings or displacements. As such, there are two areas that can provide imprecision in determining the number of allowances associated with a program or project, business-as-usual (BAU) potential and measurement and verification uncertainty (M/V). Both should be considered when deciding the number of NOx allowances to award to a program or project.

Using a BAU Compensation Factor

To accurately translate energy changes into NOx emissions, it is important to account for the possibility that energy efficiency allowances might be awarded to BAU energy improvements, that is, projects that would have occurred even in the absence of an energy efficiency/renewable energy set-aside program. To maximize both the economic and environmental benefits of the set-aside, reductions in energy use and NOx emissions that arise as a result of BAU activities should not be awarded allowances. This concept was initially discussed in the first guidance document. In that document, EPA suggested that one way to ensure that only better-than-BAU reductions are awarded is by applying a compensation factor to the amount of electricity saved or displaced. The following paragraphs explain the rationale for, and how to develop, a BAU compensation factor. This factor can be included in a state's formula for determining the number of NOx allowances to award to a program or project.

The compensation factor EPA has developed is the ratio between:

(1) amount of savings assumed to be in the baseline or BAU activity (E_{BAU}) to the total potential savings from energy efficiency, renewable energy, CHP and other actions (E_T); and
(2) total potential savings from energy efficiency, renewable energy, CHP and other actions (E_T).

The following is the equation for the compensation factor:

$$\textit{Compensation factor} = (E_T - E_{BAU}) / (E_T)$$

The compensation factor is then multiplied by the total amount of electricity savings and/or displacement that the applicant specifies in the application for NOx set-aside allowances. In other words, the amount of allowance given is reduced to the extent that the claimed amount is a BAU activity. Thus the larger the potential relative to any BAU improvement included in the baseline, the smaller the discount. For example, if the total potential is 100 KWh and the BAU amount is 10KWh, the compensation factor is 0.9, or (100-10)/100. So if a project being claimed by an applicant produces electricity savings that equal 20 tons of NOx allowances, the claimant may only receive 18 tons (0.9 factor applied to 20 tons). Thus, two out of the 20 tons or 10%, on average, may have been BAU according to this compensation factor.

Table 2 on the following page provides a range of potential BAU compensation factors. Table 2 contains estimates of the expected energy efficiency and renewable energy actions associated with existing federal programs. These actions have already been accounted for in the SIP Call baseline, and for purposes of the set-aside are included in EPA's estimate of BAU energy efficiency since they are a result of other programs rather than the NOx SIP Call Energy Efficiency set-aside. Thus, in Table 2, EPA pieces out baseline energy efficiency/renewable energy, as compared to the potential for new energy efficiency and renewable energy actions to determine the BAU factor. Table 2 includes electricity demand and energy efficiency/renewable energy potential as estimated in three different studies: DOE=s Five Lab Study[3], Energy Innovations[4], and America=s Energy Choices[5].

3. *U.S. DOE, ÁScenarios of U.S. Carbon Reductions: Potential Impacts of Energy-Efficient and Low Carbon Technologies by 2010 and Beyond,@ Washington, D.C., 1997. Conducted by five U.S. DOE laboratories, the study is referred to as the "Five Lab Study.@*

4. *Alliance to Save Energy, American Council for an Energy Efficient Economy, Natural Resources Defense Council, Tellus Institute, and Union of Concerned Scientists, ÁEnergy Innovations: A Prosperous Path to a Clean Environment,@ Washington, D.C., 1997.*

5. *American Council for an Energy Efficient Economy, Alliance to Save Energy, Natural Resources Defense Council, and Union of Concerned Scientists, ÁAmerica's Energy Choices: Investing in a Strong Economy and a Clean Environment: Main Report,@ Washington, D.C., 1991.*

Table 2. Rational for Energy Efficiency/Renewable Energy BAU Factor

Scenario of energy trends and EE/RE potential	Potential reduction in energy consumption from EE/RE *(as a % of total projected energy demand forecast)*		Expected future EE/RE electricity savings accounted for in SIP Call demand forecasts *(% baseline forecasts reduced to reflect demand reductions associated with existing federal programs)* [6]		Potential energy consumption reductions from EE/RE minus that already recognized in SIP Call demand forecasts *(SIP Call reductions/total potential)*		Associated BAU factor *(Range for 2003-2010 of total EE/RE potential minus already accounted for EE/RE actions)*
Five Lab Study (*100% implementation rate scenario, including cogeneration & RE potential)*	2003	2010	2003	2010	2003	2010	.68-.82
	14%	26%	4.5%	4.8%	32%	18%	
Energy Innovations *("Innovation path" scenario)*	17%	26%	4.5%	4.8%	26%	18%	.74-.82
America=s Energy Choices *("environmental scenario" including renewables)*	21%	34%	4.5%	4.8%	21%	14%	.79-.86

Using these estimates, EPA has determined that an appropriate BAU compensation factor falls into the range of 0.68 to 0.86, or the inverse of the largest and smallest amounts of BAU energy efficiency and renewable energy calculated from these studies. For simplification, EPA recommends using a BAU factor of 0.75, which should reasonably compensate for the amount of energy efficiency and renewable energy included in the SIP Call baseline. It is up to each individual state to decide whether or not the program or project under consideration should be subject to a compensation factor, and the level of compensation that should be made. EPA is providing the 0.75 factor as a guideline. States may use that factor, develop a different factor based on their own estimates of total potential, or omit the use of a factor. Although this guidance does not discuss other methods for accounting for BAU activities than using a BAU

6. *Climate Change Action Plan (CCAP) energy demand reductions associated with existing federal programs as detailed in "Analyzing Electric Power Generation Under the CAA", July 1996*

compensation factor, states may opt to develop their own methods to compensate for BAU projects as they see fit.

4.5 Discounting for Measurement and Verification (M/V) Uncertainty

Measurement and verification is the confirmation that energy efficiency and renewable energy actions are producing the energy savings or displacement that set-aside applicants claim within their applications for allowances. Because efficiency and renewable energy programs and projects are not uniform, differences among them mean that these actions are often measured and verified with varying accuracy and levels of rigor. In addition, variation among the available M/V protocols and how programs and projects elect to use them can lead to uncertainty in the precision with which energy efficiency and renewable energy actions are measured and verified. Furthermore, building and equipment use patterns may not be constant from year to year or season to season, which also introduces variability and some uncertainty. Establishing a thorough measurement and verification mechanism as part of the programmatic framework for administering the set-aside is important for establishing a common basis for estimating the reductions in emissions associated with energy efficiency gains, and for ensuring that there is parity between every project that will receive allowances.

For example, using metering or submetering of equipment to demonstrate the pre- and post-retrofit energy use eliminates most or all of the uncertainty about how much that equipment is used during the time period in question. However, using stipulated measurement, where the performance metric of the new equipment is multiplied by the assumed or historical use of that equipment is inherently less accurate. A hotter summer than usual, higher or lower building occupancy levels, or other variables may have a significant effect on the amount of savings or displacement that is actually realized.

Using an M/V Discount Factor

Based on an extensive review of existing M/V practices and protocols by the EE/RE Set-Aside Workgroup, EPA believes that applicants should have choices with regard to the measurement approach they can use to measure electricity reductions from their projects. As such, EPA recommends that when determining the number of allowances to award a project, states give applicants allowances for their electricity reductions based on the certainty of results associated with the M/V method that the applicant chooses.

States that are particularly concerned with the accuracy with which projects are measured and verified may want to consider using a discounting mechanism to adjust projected energy savings and displacements to account for measurement and verification imprecision, and uncertainty associated with variation in building and equipment use patterns. A discounting factor can be included, like a compensation factor, as part of the state's formula for translating electricity savings into allowances. Thus, a more accurate M/V approach is rewarded with a higher level of credit (or lower level of discounting).

States have flexibility in choosing their own M/V approach, and may also develop their own discounting methods, or develop alternative mechanisms. As such, states can adapt any methodologies outlined in a number of available protocols, such as EPA's *Conservation Verification Protocol (CVP),* DOE's *International Performance Measurement and Verification Protocol (IPMVP),* and *New Jersey's Measurement Protocol for Commercial, Industrial and Residential Facilities (MPCIRF)* or developing a more specific (or more general) approach of

their own. EPA believes, however, that developing discount factors to account for M/V uncertainty, based on the pertinent information presented in these established protocols, may prove to be the easiest strategy for states to undertake.

A detailed explanation of the key considerations for designing M/V requirements will be discussed in the 3rd guidance document, *Creating an Energy Efficiency and Renewable Energy Set-Aside in the NOx Budget Trading Program : Measuring and Verifying Electricity Savings*. In addition, the 3rd document will provide an assessment of the available protocols and how program-specific and measure-specific methods contained in these protocols can be adapted for the purpose of an energy efficiency and renewable energy set-aside in the NOx Budget Trading Program.

4.6 Determining a NOx Allowance Exchange Rate

Within their formula for translating energy savings/displacements into allowances, states may choose to utilize an "exchange rate" to weigh energy efficiency reductions at greater or less than the value of other NOx emissions reduction mechanisms. As such, states can elect to award more than one allowance per ton of emissions reduced if the state aims to provide greater incentive for energy efficiency and renewable energy, versus other controls.

EPA recommends that a "one to one" exchange rate be used, such that 1 ton of NOx emissions avoided is equal to allowances associated with 1 ton of NOx emissions. However, states may decide to use an exchange rate that is higher or lower than 1.0 in order to provide greater or lesser incentive. It is up to each state to determine whether or not to include some type of exchange rate, other than the 1 to 1 rate that EPA recommends, as part of its NOx allowance calculation formula.

4.7 Sample Calculation

Once the state determines the variables it will include in its NOx allowance calculation formula, the appropriate number of allowances to be awarded to a program or project can be determined. At a minimum, the conversion calculation must include the amount of energy saved and a NOx emissions factor. In the sample calculation provided in this section, allowances are a function of the:

(1) *energy reduction/displacement from the energy efficiency or renewable project*,
(2) *NOx Emission Factor*;
(3) BAU compensation factor,
(4) M/V discount factor, and,
(5) *NOx allowance exchange rate*.

These are the variables that EPA recommends be included in a state=s NOx allowance calculation formula. The formula consists of the product of these factors. As such, the calculation formula for these variables would be:

Total Award = (Energy Saved) * (NOx Emission Factor) * (BAU Compensation Factor) * (M/V Discount Factor) * (NOx Allowance Exchange Rate)

Because fractions of allowances are not allowed to be awarded under the SIP Call rule, the number of allowances awarded are rounded to the nearest whole numbers. An example calculation using the above formula is included in Figure 2.

Figure 2. Sample Calculation of NOx Allowances

Energy Saved	= 2.1 million KWh per ozone season
NOx Emission Factor	= System Heat Rate (btu/KWh) * NO_X Emissions Rate (lbs/btu) = 10,000 btu/KWh *1.5 lbs/mmBtu = 0.0015 lbs./KWh.
BAU Compensation Factor	= 0.75
M/V Discount Factor	= 1:1
Exchange Rate	= 1:1
Avoided NOx	= (2.1 million Kwh) * (0.0015 lbs/Kwh) * (0.75) * (1) * (1) = 2,362.5 lbs per ozone season = 1.18 tons of NOx emissions per ozone season = *1.0 NOx allowance*

5.0 RENEWING ALLOCATIONS WITHIN A MULTI-YEAR AWARD PERIOD

While energy efficiency and renewable energy projects generally have long lifetimes, and provide benefits over a span of years, changes can occur. Once allowances are awarded, states should set up a system by which they will verify and renew the allocations within the lifetime of the award. Therefore, if allowances are awarded for a project for multiple years, it is recommended that states require recipients of set-aside allowances to demonstrate that the project is still in place, and operating, during the subsequent ozone seasons for which they are receiving allowances. If energy savings have declined over the life of the project, the allowances associated with the project should be reduced by an appropriate amount.

One method to account for changes in energy savings over time is to require awardees to submit a brief certification statement annually. The certification statement would include an update of monitoring and verification information, and an explanation of any changes that have occurred since the last time the project's energy savings were measured and verified. For an example of a certification form, see Appendix D.

5.1 Why Energy Savings Might Decline Over Time

Energy savings may decline because of changes in energy use. When an end user puts in more lighting, or increases the amount of time that their heating is in use, they may reduce the energy savings the energy efficiency improvement has achieved. In this case, it may be appropriate to take the reduction in energy savings into account in that and subsequent awards.

In other situations, for example in an industrial plant, usage may have increased as a natural part of its production cycle. In this latter case, states should take into consideration whether the efficiency program or project has resulted in improved energy intensity, and decide on how to deal with the variation in light of that fact. Even though energy use has increased, it has done so as a result of increased production, which is usually the result of increased demand. It may not be appropriate to penalize a claimant for an apparent decrease in energy savings when, in reality, the efficiency or renewables improvement actually reduced the amount of energy that would have been used for the same amount of production prior to implementing the improvement.

5.2 Using M/V to Determine Changes in Energy Savings

How a state chooses to design its methods to measure and verify energy savings, and chooses to use factors to discount uncertainty in the M/V process, can influence the level of involvement required in renewing allowance awards. For example, if a particular project's savings were stipulated with a high M/V discount factor, a state may elect to only require a simple demonstration that the program/project is still in place and operational for each subsequent year it is to receive allowances. This is because a large discount factor can sufficiently account for declining savings over a short time period (3-6 years).

In the case of a program or project which originally used a M/V protocol with more certainty, and thus a low discount factor, it may be necessary to obtain periodic verification reports. Although the M/V uncertainty for this situation is not as high as if measurement was stipulated, because no discount factor is employed, the subsequent verification reports might

not factor in the likelihood of declining benefits adequately enough, and states may want to require more substantive monitoring and reporting.

6.0 WHEN TO DISTRIBUTE SET-ASIDE ALLOWANCES

Each state is responsible for determining when in the annual programmatic cycle to distribute set-aside allowances to qualified applicants, and for what allowance year. For example, a state can utilize the energy savings from one ozone control period to determine the allowance allocations for that allowance year, or can use the savings to determine those for the *following* year. As such, in this chapter, EPA details two different timing options: the "seasonal lag" option and the "same year allocation" option.

There are several considerations that should be thought out in determining which timing option to utilize. Because energy savings must be demonstrated before projects should receive allowances for their associated NOx reductions, an energy efficiency set-aside program participant could receive the allowances in October of the same year, at the earliest. If program participants receive allowances for that same year, as illustrated in the "same year" option, they would thus only have until the end of December to participate in trading, which may not be an adequate period of time to do so. If by contrast, they received allowance for the *next* allocation year, as described in the "seasonal lag" approach, they would have a much longer period of time to do so, and states would also have more time to evaluate and determine the final allocations.

Important issues to consider include: how the timing of the allocation award could affect the market accessibility of the allowances, and how the length of time between the initial investment in the electricity savings project and the allowance award can influence the value of the set-aside allowance. In this section, these issues are discussed with respect to both the seasonal lag option and the same year award option.

In addition, EPA recommends that decisions about when to award allowances should be made keeping in mind the time requirements for the processes discussed in the previous sections, including the amount of time required to adequately review and process applications, and translate electricity savings into allowances.

6.1 Same-Year Award Option

Under the same year award option, an applicant would receive allowances for emissions reductions achieved during the current year's ozone season. The allowances would be awarded immediately following the ozone season, once electricity savings are demonstrated and the associated emissions reductions determined. For example, based on performance during the 2008 ozone season, awards for 2008 would be made for projects implemented and in operation during the 2008 ozone season. Allowances awarded in this fashion would be transferred in the fall of 2008 to the project applicant, and would be available for trading between the end of the ozone season and when core sources must illustrate that they are in compliance with their NOx budget (December 1).

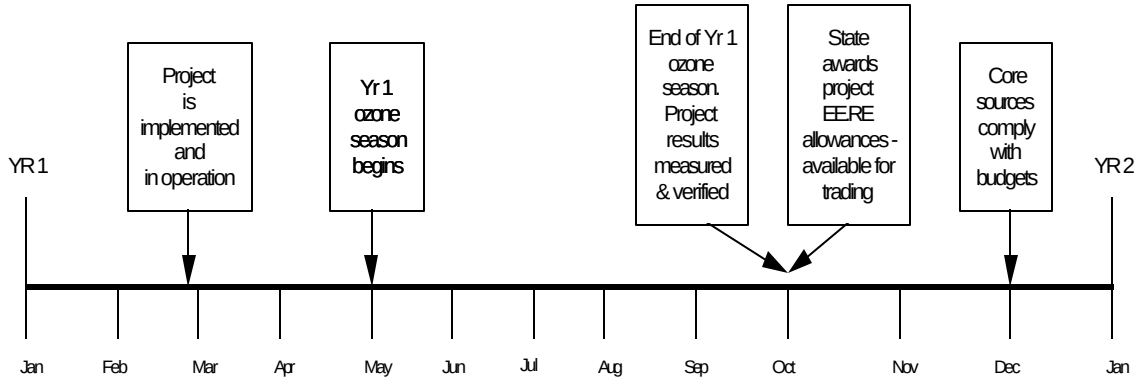

Figure 3. Same Year Award Time Line

The major advantage of this option is that the allowance awards are made based on the energy saved/displaced during the same ozone season for which the allowances will be traded and used. However, there are several significant disadvantages to this approach. States would only have a short time period to process applications to award the allowances (e.g., mid-October through mid-November), requiring that all of the work necessary for allocating the allowances to be conducted in a short period of time. In addition, the same-year allocation option could limit the potential marketability of the allowances. Core sources most likely will have decided upon how they are going to come into compliance if they their emissions exceed allowable levels prior to the ozone season, making it potentially difficult for the recipient of set-aside allowances to sell them at the end of the season. While a few core sources may need allowances after the ozone season to meet their allocation requirements, giving awardees the ability to trade their allowances over a greater period of time would be beneficial.

6.2 Seasonal Lag Option

Under the season lag option, an eligible applicant puts a project in place and demonstrates the electricity savings/displacement for at least one summer ozone season before the project would qualify for an award. Once electricity savings are verified and associated emissions reduction are determined, the applicant would then be awarded allowances prior to the next ozone season (e.g., based on demonstrated savings during the 2007 ozone season the applicant would be awarded allowances for the 2008 ozone season. This award would occur in early 2008).

The award is based on the energy savings that occurred during the previous ozone season, rather than those that occur during the ozone season in which the allowance will be traded and used. As such, the applicant would have to have the project in place for an entire year before receiving the initial award for the program or project and to trade the allowances.

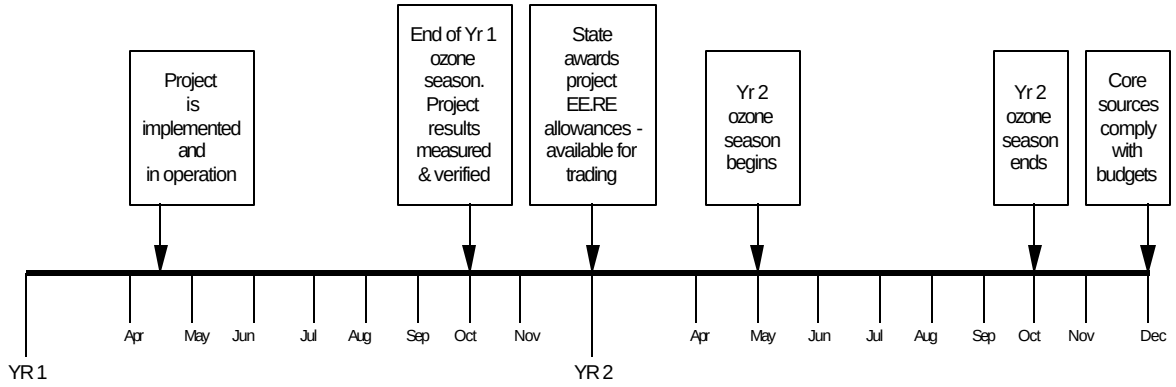

Figure 4. Seasonal Lag Time Line

However, EPA believes that the seasonal lag system has many advantages. It provides greater certainty for the state and program applicants, by quantifying an exact calculation of program participation and allowance allocations *before* the applicable year. The seasonal lag option also allows states more time for review and approval of applications, and the actual trading period can be spread out over a longer period of time. In addition, although the applicant would have to wait longer to receive its initial award under the seasonal lag option than under the same year option, the applicant would ultimately have a longer time period to conduct trading after allowances are awarded. Likewise, potential allowance buyers will have an understanding of the number of allowances available on the market via the set-aside-- and will be able to more effectively incorporate these allowances into their compliance plans. If the entire set-aside process is to be completed in one year, the monitoring, review, issuance and trading processes would all have to be undertaken in October and November, which puts a great administrative burden on the state and can limit market accessibility to the set-aside allowances.

Under the seasonal lag option, the project sponsor could receive their allowances several months prior to the second ozone season, and would thus have a known asset available to be traded before the beginning of the summer, which is when core sources would most likely be purchasing these allowances. In addition, under this option, core sources would have greater certainty as to the number of allowances available for them to purchase resulting from the set aside, and can more effectively incorporate these allowances into their compliance plans.

7.0 PUTTING IT ALL TOGETHER: INTEGRATING THE ADMINISTRATIVE PROCESSES

In creating a complete framework for administering a set-aside, it is important to consider how each of the application, allocation, and award processes will affect the entire program administration. The amount of time required to administer certain processes can limit the amount of time available to administer other aspects of the set-aside, and will depend on each state's particular priorities and resources.

For example, once a state has determined the amount of time necessary for reviewing and processing applications, subsequent processes may be affected. It might not be realistic for some state agencies to be able to process applications and allocate allowances all in one year, because of the associated administrative burden and quick turn-around required to do so. This would be the case if a state decided to utilize the same-year allocation option and a one-step application process. In this situation, the seasonal-lag option would be more practical, because the administrative processes would be spread out over two years.

Given these concerns, EPA's recommendation is that states administer a two-step application process, and award allowances under the seasonal lag approach. With this particular programmatic framework, the application process would flow relatively easily and would not be compressed into a short approval time frame, thus reducing potential timing pressures that could otherwise be posed on both the states and applicants. In addition, this design would allow participants to market their allowances and reap the financial reward more effectively. States would also have a better sense of the number of allowances to distribute to applicants.

While the two-step seasonal lag approach represents EPA's suggested program design, in finalizing an approach for administering their set-aside, EPA also recommends that states revisit their early decisions (those discussed in the first guidance document) to create a fully integrated program design. To assist states in this endeavor, EPA provides a review of all of the program elements discussed thus far, and includes a sample program design and time-line that encompasses all of EPA's recommended program elements discussed in both the 1st and 2nd guidance documents.

7.1 REVIEW OF KEY PROGRAM ELEMENTS DISCUSSED THUS FAR

This guidance document covers how a state would flesh out the administration of the program, after the initial program elements have been determined. The first guidance document discusses the first steps that the state would take in deciding to set aside allowances for energy efficiency and renewable energy. In the first guidance EPA details how to determine the number of allowances that would be set aside for energy efficiency projects. EPA specifically addresses how the set-aside allowance pool size can be adjusted to maximize subscription, and likewise, how subscription will be affected by the number of ozone seasons a project would be eligible for, and whether or not projects initiated before the start of the set-aside qualify for allowances. The following table lists each of the program elements discussed in both guidance documents thus far:

Table 4 : Energy Efficiency and Renewable Energy Set-Aside Program Elements

1st Guidance Document	*2nd Guidance Document*
1) The size of the set-side	1) Determining applicant and program eligibility
2) How to handle over-subscription	2) Choosing between either the one-step or two-step application process
3) How to handle under-subscription	3) Using a NOx emissions exchange rate
4) If the state chooses to give credit for early actions	4) Developing factors to use in the NOx allowance calculation formula
5) The length of award , or, the maximum number of ozone seasons for which an applicant will receive allowances	5) Distributing awards under either the same-year or the seasonal-lag approach

7.2 SAMPLE SET-ASIDE PROGRAM DESIGN

Because the administrative processes can be influenced by the program elements design decisions discussed in the first guidance document, EPA is presenting a sample program design based on EPA's recommended options proposed in both this guidance as well as EPA's initial guidance on designing a set-aside. EPA believes that this design provides the most incentive for implementing energy efficiency/renewable energy projects and the most certainty for both the State and the applicant. The sample program design (PD1) is outlined in Table 3. Subsequently, EPA discusses why this is the recommended approach. Again, states are welcome to adapt the approach detailed in the sample program design, or develop an alternate scheme.

Table 5. Example State Set-Aside Program

	Program Element	Recommended Program Design (PD1)
Guidance 1	*Size of Set-Aside*	10 Percent
	Over-Subscription	First Come First Served
	Under-Subscription	Distribute or Auction un-awarded allowances to core-sources
	Credit for Early Actions	Yes
	Length of Award	3 Years
Guidance 2	*Applicant/Program Eligibility*	Uniform timing criteria, parity between applicants
	Application Process	2 step
	NOx Emissions Rate	.0015 lbs/kWh
	NOx Allowance Calculation	Formula based upon NOx emissions rate plus additional factors to be determined by each state
	Timing of Award	Seasonal Lag

Size of Set-Aside

In Program Design 1 (PD1), the size of pool is set at 10% of the overall allowance pool. In PD1, the larger size of the pool emphasizes the great role that efficiency can play in meeting the cap, and the potential that efficiency/renewable energy activity could play in lowering the cost of compliance with the cap. PD1's large pool size also lessens concern about business-as-usual programs and projects being awarded with set-aside allowances, since the pool provides more room for incremental improvements.

Over Subscription

How a state treats the potential for over-subscription, and under-subscription, of the set-aside pool could have significant impacts on the value of an energy efficiency/renewable energy allowance. PD1 treats over-subscription on a first-come-first-served basis, which preserves the value of the set-aside allowance. A pro-rata allocation of allowances, by contrast, would ensure that all qualified projects will receive some reward, but depending on the extent to which the

pool is over-subscribed, would reduce the per-unit-of-emissions-saved benefit associated with energy efficiency/renewable energy activity.

How a state addresses over-subscription could also effect the certainty that qualifying actions will receive awards. Although PD1 could potentially deny allowances to those applicants who apply after the pool is fully subscribed, they could reapply for full credit the subsequent year, which is better than under the pro-rata allication, in which they would be guaranteed allowances, but would receive a reduced number. Furthermore, because there is a three year allowance stream in PD1, if the project applicant has to wait a year before receiving allowances for their project, they would be still be entitled for three years of allowances. If, by contrast, a state decided upon a one-year allowance stream, all applicants, regardless of whether they had obtained allowances this year, would have to reapply in subsequent years, and thus would not have a definitive estimate of how many allowances they would receive in future years.

In addition, EPA believes that over-subscription can be compensated for in the size of the set-aside pool. Over-subscription is more likely to occur when the pool size is small. Thus, PD1's larger pool size mitigates the potential for over-subscription. Lastly, the two-step application process in PD1 gives states the ability to adjust the pool size should a greater number of applicants apply for awards than expected.

Under Subscription

If less energy efficiency and renewable energy projects are submitted to the state for allowances and the set-aside pool is not fully subscribed, PD1's system of reallocation of unclaimed allowances to core sources maintains the integrity of the set-aside. As such, by reallocating (or auctioning) unclaimed allowances to core sources on an annual basis, PD1 does not increase core sources' compliance costs, and preserves the value of those projects which have received set-aside allowances.

Credit for Early Actions

PD1's provision for recognizing energy efficiency and renewable energy actions that are initiated prior to the implementation of the NOx Budget Trading Program can increase the likelihood that a state's set-aside pool will be fully subscribed in the first year of the set-aside. In addition, giving credit for early actions allows the state to better gauge future energy efficiency/renewable energy activity. PD1's provision for including credit for early action is facilitated by its relatively large set-aside pool size.

Not giving credit for early actions might limit the potential for greater implementation of energy efficiency and renewable energy actions. Furthermore, this could create a disincentive to potential project sponsors who are considering undertaking, or will initiate, energy efficient or renewable energy projects in the three years prior to when the NOx Budget Trading Program goes into effect.

Length of Award

PD1's three-year award length accounts for the long-term benefits produced by most energy efficiency/renewable energy measures, and maximizes the financial value of the set-aside allowance by allowing project sponsors to more effectively market their allowances and

reap the financial reward over a longer period of time. At the same time, it is important to not limit new projects access to the set-aside pool. As such, the large size of the set-aside in PD1 reduces over-subscription pressure on the pool that could arise due to the three-year award period. Furthermore, a one year allowance period does not guarantee rewards commensurate with the multi-year energy and emissions savings associated with most energy efficiency/renewable energy activity.

Application Process

Although the two-step application process in PD1 increases the amount of administrative work for both the applicant and the review agency, it provides a number of significant benefits. These benefits include: a longer planning time frame, greater certainty for the applicant that they will or will not be receiving allowances, and earlier certainty for the state of the total set-aside participation level. This gives the state, and project applicants, the ability to address shortcomings in project measurement plans, and over- and under-subscription planning.

The one-step application process requires less administrative burden since applications are processed all at once. However, it also poses multiple disadvantages, and administering the one-step process in conjunction with a same-year allocation process, as discussed earlier in this chapter, because of the potentially burdensome level of activity for both applicants and review agency(ies) in the immediate post-ozone season period. In addition, the trading period would be quite short as the earliest date ozone season results could be provided to the state is September 30th, leaving two months for the review of claims, awarding of allowances, and allowance trading.

Applicant/Project Eligibility

EPA believes that a successful set-aside program will be designed to allow a maximum number of energy efficiency and renewable energy project sponsors participate. As such, a variety of types of projects and actions should be eligible for allowances, including standard measures such as lighting, HVAC, and motors retrofits, and certain custom measures. It is up to each state to determine what will qualify for their particular set-aside.

At the same time, EPA believes that providing parity between applicants is critical, such that similar applicants be judged by the same, uniform, criteria. In addition, EPA also recommends that states establish timing criteria, such that for a given year, all applicants are submitting set-aside allowance applications for the same ozone control period.

Timing of Award

The Same-Year option compresses the time in which the allowance award and trading process must take place, awarding electricity reductions in the ozone period in which they occur while the Seasonal Lag scenario, as recommended by EPA in PD1 awards electricity reductions in arrears. EPA believes that the seasonal lag option is advantageous because it provides more certainty for the state as to how many allowances will be awarded, and applicants have greater certainty of the number of allowances their projects will receive.

The seasonal lag also allows for review and approval of applications to be spread out over a longer period of time, instead of compressing the review, issuance and trading processes into the October through November 30 time frame. The seasonal lag may also be more

compatible with a two-step process because it provides states and applicants with more time to meet the additional work (and certainty) associated with the two-step application process.

Conclusions on Options PD1

With the particular combination of options in PD1, EPA believes that each administrative process would flow relatively easily and within a reasonable time frame. Because of the two-step seasonal lag allocation, states would have a better understanding of the number of allowances to distribute to applicants, and applicants would have a good sense of the number of allowances they are to receive. A state would also know in advance if the pool is likely to be oversubscribed, and would be able to plan accordingly. In the event that the pool is under-subscribed, a state would be able to lend the un-awarded allowances to core sources, on an annual basis, until more projects come on line and the pool is fully subscribed. By crediting early actions, a state will gain experience in advance of the first year the cap and trade system, and will know sooner if any adjustments should be made to the program.

Depending on the particular circumstances of each state, EPA believes that alternative program elements can be adapted as part of an adequate set-aside program. However, the state should be careful to not limit the full potential of the set-aside in doing so.

7.3 Flow Charts and Timelines

The following flow charts (Figures 3 and 5) and time lines (Figures 4 and 6) are designed to illustrate the relationship between design elements, applicant and state actions, and overall program administration.

8.0 CREATING APPLICATION FORMS AND OTHER DOCUMENTATION, TRACKING AND REPORTING MATERIALS

Designing appropriate forms and other documentation, tracking and reporting materials is a key part of the administration of the energy efficiency and renewable energy set-aside. These materials will be used by the state in determining whether applicants and their associated projects qualify for set-aside allowances, and for determining how many allowances to award to qualified applicants. There are four types of materials that EPA discusses in this chapter:

- Materials to help the state determine that the project and applicant meets eligibility requirements, and to establish how energy savings will be measured *(the Initial Project Application)*

- Materials to illustrate how energy savings/displacements for the applicable ozone control season were measured and verified *(cannot be submitted before the completion of the ozone control season)*

- Materials required by EPA, to transfer allowances to qualified applicants after energy savings/displacements are quantified *(in the Initial Project Application or in a subsequent submittal)*

- Optional materials that may assist states in reviewing and approving applications, and in determining the number of allowances to allocate an applicant *(to be determined by each state)*

The chapter begins with an overview of each of the programmatic tasks associated with the one-step and the two-step application and review processes, and the related forms and documentation materials. The chapter then provides an overview of each of the related forms and documentation materials for the two-step and then the one-step processes. For both processes, forms for determining program and applicant eligibility, for determining the number of allowances to award to a project, and the use of additional materials are discussed. Last, the chapter discusses how to establish appropriate tracking mechanisms, as required under the NOx SIP Call, that are necessary for transferring allowances to qualified applicants. In particular, EPA explains how to establish NOx Allowance Tracking System (NATS) accounts. In designing these program elements, states may find it helpful to refer back to the discussion on designing the application process in Chapter 3.

8.1 General Considerations

Whether the state chooses to administer a one-step or a two-step application process greatly influences the amount of forms and materials associated with a set-aside program. Under a one-step process, the applicant would submit the final measured and verified energy savings results for the relevant summer season at the same time as the initial request for allowances, since the entire application is reviewed at once. Under a two-step process, by contrast, because additional application materials will be reviewed in a subsequent review, it is not necessary to require the full submittal at once and a greater range of materials can be processed.

An overview of the application forms and other materials is shown in the following two flow-charts. The first flow-chart is for the two-step application process, and the second flow-

chart is for the one-step application process. Note that both flow-charts are not affected by a state's decision to administer either a seasonal lag or a same-year allocation process.

The flow-charts detail each of the tasks associated with the application and review processes, and the required forms or documentation materials required to undertake each task. The flow-charts are separated into three phases, before, during or after the applicable ozone control period:

- Phase 1: Project planning/application period, before May 1
- Phase 2: During the ozone control period, between May 1-September 30
- Phase 3: After the ozone control period, after October 1

The primary difference between the two is that all actions and submittals under the one-step process take place after the ozone control period. Consequently, there are ten tasks associated with the two-step process, and four associated with the one-step. As a result, the one-step requires less forms to be exchanged between the state and the applicant than the two-step.

In Figures 5 and 6, "the Administrator" refers to the individual or office(s) at the state that is administering the set-aside.

Figure 5. Flow Chart for a Two-Step NOx Application Process

Phase 1: Pre-ozone control period

Task 1: Applicant **Initial Project Application (IPA)**	Notifies the Administrator that the applicant will be requesting allowances from the pool of allowances set aside for energy efficiency and renewable energy actions. Lists: ▪ Project Type (lighting, HVAC, motors, etc.) ▪ M&V methodology and plan ▪ Estimated energy savings and associated number of allowances

Task 2: State **Notification of Approval of IPA (NAI)**	Notifies the applicant that the Administrator has reviewed the IPA: ▪ Projects/Applicant meets eligibility criteria ▪ Applicant's proposed M&V methodology and estimated energy savings

Task 3: Applicant **Submits modifications to IPA (if needed)**	Makes changes to the IPA as necessary, based on the Administrator's comments.

Task 4: Applicant **Notification of Intent to Proceed (NIP)**	Notifies the administrator that the project will be undertaken and when work will begin, if not in place May 1.

—

Task 5: State **Reservation of NOx Allowances**	Notifies applicant that a conditional 3 year allowance stream has been reserved for the applicant. ▪ Exact amount to be finalized after the particular ozone control period, and energy savings are measured and verified

Phase 2: During the ozone control period

Task 6: Applicant **NATS account application**	Applies to Authorized Account Representative for a NATS general account.

—

Task 7: Applicant **Notice of Project Status (optional)**	Informs the Administrator as to any project changes that may alter the amount of allowances awarded to the project.

Phase 3: After the ozone control period

Task 8: Applicant **Notice of Ozone Control Period Results**	Measures ozone season energy savings and reports savings to the Administrator. ▪ Explains how results have been measured and verified ▪ Translates energy savings into NOx emissions reductions

—

Task 9: State **Notice of Allowance Crediting**	Reviews claimed ozone season results and methodology to determine final approval. ▪ Notifies EPA to issue NOx allowances to applicant's NATS account for the relevant ozone season. ▪ Notifies the applicant that the allowances have been credited to the applicant's NATS account.

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Task 10: Applicant **Claiming Subsequent Year Savings**	Applicant submits OCP after ozone season results for the subsequent year(s) have been measured and verified.

Figure 6. Flow Chart for a One-Step NOx Application Process

Phase 1: Pre-ozone control period

NO ACTION

Phase 2: During the ozone control period

NO ACTION

Phase 3: After the ozone control period

Task 1: Applicant **Submittal of Initial Project Application (IPA)**	Notifies the Administrator that the applicant will be requesting allowances from the pool of allowances set aside for energy efficiency and renewable energy actions. Lists: ▪ Project Type (lighting, HVAC, motors, etc.) ▪ M&V methodology and plan ▪ Estimated energy savings and associated number of allowances
Notice of Ozone Control Period Results (OCP)	Applicant measures ozone season energy savings and reports savings to the Administrator. ▪ Explains how results have been measured and verified ▪ Translates energy savings into NOx emissions reductions

Task 2: State **Notification of Approval of IPA (NAI)**	Administrator reviews the IPA regarding: ▪ Projects/Applicant meets eligibility criteria ▪ Applicant's proposed M&V methodology and estimated energy savings
Notice of Allowance Crediting (NAC)	The Administrator reviews claimed ozone season results and methodology. ▪ Notifies EPA to issue NOx allowances to applicant's NATS account for the relevant ozone season. ▪ Notifies the applicant that the allowances have been credited to the applicant's NATS account.

Task 3: Applicant **NATS account application**	Applies to Authorized Account Representative for a NATS general account. *(note: state may want to require proof that an applicant has established a NATS account as part of task 1, or later, as shown here, after the project has been approved)*

Task 4: Applicant **Claiming Subsequent Year Savings**	Submits OCP for year 2, and a year later for year 3, after ozone season results for the subsequent year(s) have been measured and verified.

8.2 Documentation and Reporting Materials for a Two-Step Application Process

As discussed in Chapter 3, the two-step application process allows states and applicants to determine whether projects will receive allowances under the set-aside program before the completion of the relevant ozone control period. When the initial application is submitted and approved, an estimated number of allowances are set-aside for the applicant. Then, the final determination of how many allowances a project will receive is made at the end of the ozone control period, when the associated energy savings can be measured and verified. Under the one-step process, by contrast, the full application is reviewed at once, at the end of the ozone control period. The number of allowances a project will receive is determined at the same time that the state determines if the project meets eligibility criteria.

As such, under the two-step, the information that is necessary for determining if a project will qualify for allowances should be included in the initial application that a program/project sponsor submits for an award. After the state approves the initial application, the applicant then submits several additional pieces of information about the project to the state, which determines the specific number of allowances the project will receive or alerts the state to any changes made to the information submitted in the original application.

The following are potential documentation and reporting materials, based on those required for each task in the two-step flow-chart in section 8.1:

Phase 1: Pre-Ozone Control Period

Task 1

- **Intial Project Application (IPA)**

  The first step an applicant should take in applying for an award would be to submit an *Initial Project Application* to the appropriate state official. The IPA notifies the state of the applicant's interest in earning allowances from the set-aside. The IPA should contain, at a minimum, all basic information outlined in Chapter 3 of this guidance and a brief program description of the project that the applicant is submitting for allowances. **Appendix C-1** is sample IPA that states may use or adapt for this purpose.

- **Application Agreement**

  An *Application Agreement* should be submitted in tandem with the IPA. In the Application Agreement the applicant certifies that all information submitted is correct and accurate. **Appendix C-2** is sample Application Agreement that states may use or adapt for this purpose.

Task 2

- **Notification of Approval of IPA (NAI) / Notification of Modifications Required (NMR)**

  The state official who receives the IPA should review and evaluate it, then notify the applicant as to whether the proposal is acceptable and will receive set-aside allowances, or that it is unacceptable as proposed. If the project is not approved, the state should indicate any modifications that could make the project eligible for set-aside allowances. A notification of project acceptance and/or modifications required should outline the important review elements by which the state evaluated the project, and should provide the applicant suggestions to improve any potential problems. **Appendix C-3** is a sample of this type of notification form.

Task 3

- **Resubmittal of Initial Project Application**

  After a modified IPA is resubmitted, the state would review the modifications and determine if the project is not acceptable, or if it is still unacceptable.

Task 4

- **Notice of Intent to Proceed**

  The *Notice of Intent to Proceed* informs the state official when the project will be undertaken and when work will begin. This is particularly important in the case where the project will be initiated after May 1, the beginning of the ozone control season. **Appendix C-4** is a sample notice of intent to proceed.

Task 5

- **Notification of Reservation of Allowances**

  A *Notification of Reservation of Allowances* can be included in the Notification of Approval of IPA in task 3, or separately, after the applicant has indicated in the Notice of Intent to Proceed that the applicant will go forward with the project. The state may want to notify the applicant at this point rather than early if the initial project application did not meet criteria, and was resubmitted by the applicant. **Appendix C-5** is a sample notice of Reservation of Allowances.

Phase 2: During the Ozone Control Period

Task 6

- **NATS Account Application**

  Section 8.4 discusses the purpose of the NATS and how to establish a NATS account. After receiving approval from the state official, the applicant will need to establish a general account in the NATS. If the state

official evaluating the previous application materials is different from the state official serving as the Authorized Account Representative (AAR) for the set-aside, the evaluating state official may want to receive a copy of the forms the applicant submits to the AAR, and vice versa. The form used for this purpose is the *General Account Information Form* that is referred to in section 8.4, and contained in **Appendix A**

Task 7

- **Notice of Project Status**

  States may find it helpful to be kept informed on the progress of projects that are being considered for allowance awards, throughout the ozone control season for which the applicant is applying for set-aside allowances. A Notice of Project Status can be used to gather additional information concerning the status of programs/projects, and ultimately the resulting savings, and can be used to periodically inform the state as to any project changes that may alter the energy savings associated with the project.

  The information provided by this notice can be important because the date and proportions of operation may affect the amount of allowances awarded if the project is not fully operational by the beginning or at any subsequent portion of the ozone control period. **Appendix D-1** is an example of this notice.

Phase 3: After the Ozone Control Period

Task 8

- **Notice of Ozone Control Period Results (OCP)**

  A *notice of ozone control period results* is submitted by the applicant to report program/project results to the state for each control period that it is eligible for an award. The applicant uses this form to explain how results have been measured and verified. States may want to have applicants translate energy savings or displacements into NOx emissions reductions for the applicable ozone control period in this form. On the other hand, states may opt to have applicants only report electricity savings in this form, and may choose to translate the savings into emissions reductions themselves. **Appendix C-6** and its supplements provide sample notices of ozone control period results.

Task 9

- **Notice of Allowance Crediting**

  Once the state has reviewed the notice of ozone control period results, they can then determine the appropriate number of allowances to request the AAR transfer from the state's general account holding all set-aside allowances to the applicant's general account. If the information submitted is adequate for the state to make this determination, the state should then inform the applicant when the award has been credited to the applicant's general account. A *notice of allowance crediting* can be used to inform the applicant that the award has been made and the length of time that award will be available, pending confirmation of subsequent

year's results. **Appendix C-7** is an example notice of allowance crediting.

- **Notice of Insufficient Submission/Resubmission of Ozone Control Period Results**

  If in its evaluation a state finds the information or claimed savings are not acceptable, the state must notify the applicant that no award will be made based on the reported savings. In addition, the state should identify the deficiencies in the applicant=s claim, and offer the applicant an opportunity to resubmit the claim. **Appendix C-8** is an example of a *notice of insufficient submission*, which can be used to apprise the applicant of the state=s findings. **Appendix C-9** is an example of *a resubmission of ozone control period results*.

Task 10

- **Claiming Subsequent Year Savings**

  The applicant submits a Notice of Ozone Control Period Results at the end of each subsequent ozone season of the performance period.

8.3 Documentation and Reporting Materials for a One-Step Application Process

Under the one-step process, by contrast to the two-step application process, the full application is reviewed at once, at the end of the ozone control period. The number of allowances a project will receive is determined at the same time that the state determines if the project meets eligibility criteria. As discussed in Chapter 3, an applicant could initiate a project and not know that they do not meet eligibility criteria until after the relevant ozone control period is completely over, without an opportunity to submit modifications to the project so that it can be approved. All actions are initiated in phase 3:

Task 1

- **Initial Project Application (IPA)**

  The first step an applicant should take in applying for an award would be to submit an *Initial Project Application* to the appropriate state official. The IPA notifies the state of the applicant's interest in earning allowances from the set-aside. The IPA should contain, at a minimum, all basic information outlined in Chapter 3 of this guidance and a brief program description of the project that the applicant is submitting for allowances. **Appendix C-1** is sample IPA that states may use or adapt for this purpose.

- **Application Agreement**

  An *Application Agreement* should be submitted in tandem with the IPA. In the Application Agreement the applicant certifies that all information submitted is correct and accurate. **Appendix C-2** is a sample Application Agreement that states may use or adapt for this purpose.

- **Notice of Ozone Control Period Results (OCP)**

  A *notice of ozone control period results* is submitted by the applicant to report program/project results to the state for each control period that it is eligible for an award. The applicant uses this form to explain how

results have been measured and verified. States may want to have applicants translate energy savings or displacements into NOx emissions reductions for the applicable ozone control period in this form. On the other hand, states may opt to have applicants only report electricity savings in this form, and may choose to translate the savings into emissions reductions themselves. **Appendix C-6** and its supplements provide sample notices of ozone control period results.

Task 2

- **Notification of Approval of IPA (NAI) / Notification of Modifications Required (NMR)**

  The state official who receives the IPA should review and evaluate it, then notify the applicant as to whether the proposal is acceptable and will receive set-aside allowances, or that it is unacceptable as proposed. If the project is not approved, the state should indicate any modifications that could make the project eligible for set-aside allowances. A notification of project acceptance and/or modifications required should outline the important review elements by which the state evaluated the project, and should provide the applicant suggestions to improve any potential problems. **Appendix C-3** is a sample of this type of notification form.

- **Notice of Allowance Crediting**

  Once the state has reviewed the notice of ozone control period results, they can then determine the appropriate number of allowances to request the AAR transfer from the state's general account holding all set-aside allowances to the applicant's general account. If the information submitted is adequate for the state to make this determination, the state should then inform the applicant when the award has been credited to the applicant's general account. A *notice of allowance crediting* can be used to inform the applicant that the award has been made and the length of time that award will be available, pending confirmation of subsequent year's results. **Appendix C-7** is an example notice of allowance crediting.

Task 3

- **NATS Account Application**

  The state can require proof that an applicant has established a NATS account as part of Task 1, or separately, after the project has been approved. If the state official evaluating the previous application materials is different from the state official serving as the Authorized Account Representative (AAR) for the set-aside, the evaluating state official may want to receive a copy of the forms the applicant submits to the AAR, and vice versa. The form used for this purpose is the *General Account Information Form* that is referred to in section 8.4, and is contained in **Appendix A**

Task 4

- **Claiming Subsequent Year Savings**

  The applicant submits a Notice of Ozone Control Period Results at the end of each subsequent ozone season of the performance period.

8.4 The NATS Account

To be able to distribute energy efficiency and renewable energy projects allowances to qualified applicants, the state must open a general account in the NATS to hold all of the energy efficiency and renewable energy set-aside allowances. An applicant for energy efficiency and renewable energy set-aside allowances is also responsible for establishing a general account in the NATS with EPA, in order to be able to transfer allowances as the result of trading. The applicant need not open the account until it is notified of the allowance award.

Establishing General Accounts in the NOX Allowance Trading System

The procedures for opening a general account are those established by EPA in the NOx Budget Trading Program. The state first opens a general account to hold the allowances for the entire energy efficiency and renewable energy set-aside. To do so, the state must supply EPA with information related to who will be administering the set-aside allowance pool, including establishing a NOx Authorized Account Representative (AAR) for the state. EPA recommends that a state energy official, state air official, or state public utility commission official be named as the NOx AAR to manage the energy efficiency and renewable energy set-aside allowances. The state should also propose an alternate NOx AAR. These two individuals would be the only people authorized to request changes to the set-aside account in the NOx Budget Trading Program. To establish both the general account for the set-aside and its NOx AAR, the state would submitting a completed General Account Information form (Appendix A-1) to EPA.

Once the NOx AAR is established, applicants can apply for an individual general account in the NATS. The applicant also does this by submitting a completed General Account Information form (Appendix A-1) to the NOx AAR, rather than to EPA. The information the applicant would submit includes the name of the appropriate NOx AAR and alternate, the applicant's phone, fax, e-mail, mailing address, and the names of the person(s) who will have an ownership interest in the allowances held in the applicant's account.

As each set-aside allowance application is approved, the state must coordinate with EPA to ensure that set-aside allowances are transferred from the state's general account to the applicant's general account. Again, the transfer is handled under the normal allowance transfer procedures established by EPA in the NOx Budget Trading Program.

Transferring Allowances in the NATS

Once an applicant's allocation of set-aside allowances has been transferred from the state's general account to the applicant's general account, the applicant may request to transfers the allowances to another entity's account, if they are so inclined. To do so, they would submit a request to transfer the allowances to the NOx AAR for the energy efficiency and renewable energy set-aside using EPA's Allowance Transfer form (Appendix A-2).

To complete the Allowance Transfer form, the *transferor* (the accountholder whose account the allowances are to be transferred from) must state: (1) their account information, including the name of the NOx AAR, their account's ID number, address, phone number and fax, and (2) the same account information about the *transferee* (to whom the allowances are being transferred). Also, all of the allowances to be transferred must be listed by serial number, either singly or in series.

The NOx AAR for the energy efficiency and renewable energy set-aside must certify the transfer by signing the Allowance Transfer form. The completed and signed Allowance Transfer form is then sent to EPA. NOx allowance transfers will be recorded within 5 business days of receipt, as long as all the information has been correctly submitted, and the transfer is submitted by the appropriate NOx allowance transfer deadline, as specified in § 96.61 of the SIP Call rule.

8.5 The Importance of Reporting Results

The processes and examples described in the preceding sections and illustrated in the Appendix are merely options provided by EPA to assist states in planning for and administrating the energy efficiency and renewable energy set-aside. States may adapt these or create other processes and forms to meet their own needs. However, it is critical that states device a reporting system in which the state can be confident that the results are real and quantifiable. Likewise, it should be emphasized that documentation and reporting of results achieved from set-aside projects will be increasingly important, particularly as the role of energy efficiency and renewable energy in air quality attainment evolves to include multiple pollution prevention benefits.

9.0 EXPLAINING THE PROGRAM TO APPLICANTS

After the state has agreed upon the administrative and quantitative elements of the set-aside, the state should design a comprehensive plan for communicating to applicants how the program will operate and be administered. As such, EPA recommends that states develop a procedures manual, and additional fact-sheets and other materials as needed, to explain the steps that an applicant will need to take when applying for allowances from the energy efficiency set-aside.

The key subjects that the state may want to discuss in the procedures manual include: an explanation of the information that the state will be requesting from applicants, how applicants should properly submit the requested information, and the purpose of each item that the state is requesting. States may also want to include as part of the procedures manual, program eligibility requirements and other criteria that the state will base their approval/review process on.

States are not required to develop a procedures manual, but may find it helpful to applicants to do so. In this chapter, EPA discusses how to develop a procedures manual, and provides a sample manual in Appendix B that states may adapt or draw inspiration from when deciding how to explain their particular set-aside's program requirements to applicants. For purposes of this guidance, EPA has broken down the sample procedures manual into two parts, based upon a hypothetical set-aside program. The first part is titled General Instructions and Program Requirements, and part 2 is titled Measurement and Verification (M & V) Guidelines. Part 1 provides a description of the program, the eligibility requirements for participants and energy efficiency actions, for receiving allowances, and general requirements. Part 1 also details the required application materials and the procedures involved in reviewing them. Part 2 provides guidelines for applicants to follow when conducting M & V activities. Part 2 will be included in EPA's 3rd Guidance Document.

EPA's sample procedures manual is modeled on materials from existing energy efficiency crediting programs, including the NYSERDA *Energy Smart* Standard Performance Contract Program[7] and the California Large Non-Residential Standard Performance Contract Program[8] .

EPA recommends that states provide applicants with a copy of the procedures manual when distributing the required forms to interested applicants. Again, states are not obligated to develop a procedures manual, and can develop materials as they see fit.

9.1 Drafting a Procedures Manual

The purpose of the procedures manual is to explain each of the program steps to applicants, and should detail each of the state's responsibilities in administering the set-aside and the applicant's responsibilities in the submitting required materials to the state. The state's role as the set-aside program administrator is to review and approve project applications in a

7 *NYSERDA Energy Smart Standard Performance Contract Program Procedures Manual. Available at: http://www.nyserda.org/499pon.html*

8 *California Large Non-residential Standard Performance Contract Program Procedures Manual. Available at: http://www.pge.com/spc/nonres/forms.html*

timely manner, following a standard methodology. Likewise, applicants and the projects they submit should meet minimum eligibility criteria, comply with all program rules and procedures, submit standard forms and supplemental documentation describing their projects, and enter into an applicant agreement with the state. Recommended types of information to discuss in the procedures manual include:

- *General Program Description*: The purpose and objective of the set-aside. General requirements of the program, such as timing.

- *Applicant Eligibility*: Entities that the program is open to, such as who can apply for allowances from a given energy efficiency action.

- *Project Eligibility:* The types of energy efficiency actions that are qualify for the set-aside. States may want to list pre-approved measures, actions not eligible under the program,as well as how to submit an application for measures that are eligible but not pre-approved.

- *Allowance Eligibility:* The one-ton NOx emissions reduction minimum. How to quantify emissions reductions from energy savings.

- *Program Procedures:* Outlines the three phases of the program and the associated procedures, 1) project planning/installation/application submittal, 2) project measurement and verification, after the measure has been installed and in operation during the applicable ozone control period, and 3) Receiving allowances for an approved action.

- *Additional Program Information:* Where to direct questions, comments, etc.

States may also want to update their procedures manual yearly, to reflect any programmatic modifications, and timing requirements that may change on a yearly basis.

10.0 CONCLUSION: INTEGRATING MEASUREMENT AND VERIFICATION

In developing a NOx transport mitigation strategy that provides maximum economic and societal benefits, states can take advantage of the existing potential for energy efficiency and renewable energy. By including an energy efficiency and renewable energy set-aside as part of a state's NOx Budget Trading Program, states can achieve reductions in NOx emissions, while benefiting consumers and local economies. In issuing this guidance document, Guidance on Designing the Administrative and Quantitative of an Energy Efficiency and Renewable Energy Set-Aside in the NOx Budget Trading Program, EPA hopes to assist states in developing set-aside programs that maximize this potential.

10.1 Next Steps

Once a state has created a framework for processing applications and awarding allowances, the next step will be to address how to verify that the resultant electricity savings from energy efficiency and renewable energy projects are real, and accurately measured. EPA will issue its recommendations on develop appropriate measurement and verification standards and mechanisms in the third guidance document, *Creating an Energy Efficiency and Renewable Energy Set-Aside in the NOx Budget Trading Program : Measuring and Verifying Electricity Savings*.

The third guidance document will discuss the characteristics of energy efficiency and renewable energy projects that may cause uncertainty in measuring electricity savings, and provides an overview of the mechanisms available to limit and/or account for this uncertainty. In addition, the third guidance document will assess the specific protocols available for varied types of energy efficiency and renewable energy projects, and will discuss how states may want to handle the uncertainty associated with available methods of measurement and verification.

10.2 EPA Contacts

Questions or comments about this document, or requests for additional assistance on designing an energy efficiency and renewable energy set-aside program, should be forwarded to the attention of:

Edgar Mercado or Chloe Weil
U.S. Environmental Protection Agency
Office of Atmospheric Programs (6202J)
Arial Rios Building
1200 Pennsylvania Avenue NW
Washington, DC 20460

Appendix A- Sample NATS Forms

There are two sample NATS forms included in Appendix A. They are copies of the actual forms developed and administered by EPA's Clean Air Markets Division. States and applicants are required to use these forms.

The first form, Appendix A-1, is titled *General Account Information*, and is used to establish an account within NATS. An applicant must establish an account after their application for set-aside allowances is approved. The applicant would submit the completed form to their Authorized Account Representative.

The second form, Appendix A-2, is titled *Allowance Transfer Form*. This form is used to transfer allowances from one account to another, such as from the state to the applicant, or from the set-aside allowance awardee's account to a third party's account.

Both forms can also be downloaded from EPA's webpage:

- http://www.epa.gov/acidrain/forms/account.pdf
- http://www.epa.gov/acidrain/forms/transfer.pdf

Acid Rain Program
Instructions for Allowance Account Information Form (40 CFR 73.30 - 73.38)

The Acid Rain Program regulations require any person, company, or organization wishing to open a general Allowance Tracking System (ATS) account for the purpose of holding and transferring allowances to submit a completed Allowance Account Information form or provide the requested information in a similar format. You also may use this form to change the information previously submitted for a general account, such as the identity of the authorized account representative. In such cases, enter your allowance account identification number in the space provided at the top of the form. Affected units will automatically receive a unit account in the ATS, and should use the Certificate of Representation form to make any changes to unit account information.

Type or complete the form in black ink. If you need more space, photocopy the pertinent page. When you have completed the form, indicate the page order and total number of pages (*e.g., 1 of 4, 2 of 4, etc.*) in the spaces provided in the upper right hand corner of each page.

Remember, under 40 CFR 73.33 you must notify all persons who have an ownership interest with respect to the allowances held in an account of all Acid Rain Program submissions. EPA will accept subsequent submissions from the Authorized Account Representative (AAR) or, if one is designated, from the Alternate AAR.

If you need assistance, call the Acid Rain Hotline at 202-564-9620.

STEP 2 The owners may choose an alternate to act in lieu of the Authorized Account Representative.

STEP 3 EPA will use the address you enter here for all official correspondence concerning this account.

STEP 4 Identify all parties with an ownership interest in the allowances held in this account. All of these parties must be subject to a binding agreement authorizing the representation of the account by the authorized account representative, and, if applicable, the alternate authorized account representative, identified in Steps 1 and 2. If you (the authorized account representative) are the only person with an ownership interest in the allowances held in the account, list your name here.

STEP 6 Both the authorized account representative and the alternate (if any) must sign and date the certifications. If you are revising account information, only one signature is needed.

Submission Instructions

Submit this form to the following address:

U.S. ENVIRONMENTAL PROTECTION AGENCY
ACID RAIN PROGRAM (6204J)
ATTN: ALLOWANCE TRACKING SYSTEM
1200 PENNSYLVANIA AVENUE, NW
WASHINGTON, DC 20460

Paperwork Burden Estimate

The burden on the public for collecting and reporting of information under this request is estimated at 30 hours per response. Send comments regarding this collection of information, including suggestions for reducing the burden, to: Chief, Information Policy Branch (PM-223), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, D.C. 20460; and to: Paperwork Reduction Project (OMB#2060-0258), Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503. ***Do not send this form to these addresses; see the submission instructions above.***

United States
Environmental Protection Agency
Acid Rain Program

OMB No. 2060-0258

Allowance Account Information

General Accounts Only

For more information, see instructions and refer to 40 CFR 73.31.

This submission is: ☐ New (to open a new general account) Page ☐ of ☐

☐ Revised (to revise information on an existing general account)

If you are opening a new allowance account, complete all steps in this form. If you are an authorized account representative (AAR) for another account in the allowance tracking system (ATS), please write in your AAR ID#. If this is a revised submission, enter your ATS account # and AAR ID# and complete only those steps covering the information you wish to change. You must complete Step 6 to authorize the change of information. Only the authorized account representative or alternate authorized account representative can authorize the change.

Allowance Tracking System Account #	Authorized Account Representative ID#

STEP 1
Enter requested information for the authorized account representative

Name	
Firm (Optional)	
Phone Number	Fax Number

STEP 2 (Optional)
Enter requested information for the alternate authorized account representative

Name	
Firm (Optional)	
Phone Number	Fax Number

STEP 3
Enter the mailing address for the account

Address

STEP 4
Enter the names of all parties (persons or companies) subject to the binding agreement authorizing your representation of the account

Name
Name
Name

Name

ATS Account # (from page 1)

STEP 5 (Optional)
Respond to the questions by marking all appropriate boxes (EPA will use this information for program evaluation purposes only)

Is the authorized account representative employed by an allowance brokerage firm?

☐ No

☐ Yes (if yes, please mark all boxes that apply)

- ☐ This account will be used to transfer allowances between clients
- ☐ This account will be used to hold alllowances for investment purposes
- ☐ This account will be used for other purposes *(please specify)*))))) ▸ ______

What types of business are represented by the owner(s) of allowances in this account? (Mark all boxes that apply)

☐ Utility

☐ Non-Utility Generators of Electricity

☐ Fuel Supplier

_____ Coal _____ Oil

_____ Gas _____ Other ______

☐ Pollution Control Equipment

☐ Public Interest Group

_____ Consumer _____ Other ______

_____ Environmental

☐ Other))))))))))))))))))))))))))))))))))))))) ▸ ______

STEP 6
Read the certifications and sign and date. (Only one signature is needed if the form is being used to revise account information)

I certify that I was selected under the terms of an agreement that is binding on all persons who have an ownership interest with respect to allowances held in the Allowance Tracking System account. I certify that I have all necessary authority to carry out my duties and responsibilities on behalf of the persons with an ownership interest and that they shall be fully bound by my actions, inactions, or submissions under 40 CFR Part 73. I am authorized to make this submission on behalf of the persons with an ownership interest for whom this submission is made.

I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting material information, including the possibility of fine or imprisonment for violations.

Signature (Authorized Account Representative)	Date
Signature (Alternate Authorized Account Representative, if any)	Date

Submission Information

Mail to the following address:

U.S. Environmental Protection Agency
Acid Rain Program (6204J)
Attention: Allowance Tracking System
1200 Pennsylvania Avenue, NW
Washington, D.C. 20460

Acid Rain Program
Instructions for Allowance Transfer Form (40 CFR 73.50 - 73.53)

The Acid Rain Program regulations allow for the transfer of SO_2 emissions allowances between Allowance Tracking System (ATS) accounts, including transfers of allowances between contemporaneous future year subaccounts and between compliance subaccounts and current year subaccounts. You may transfer a portion of your allowance allocation or the entire allocation in perpetuity from a unit account to another account in the ATS. Upon receipt of a complete Allowance Transfer form, EPA will move the allowances from the transferor's account to the transferee's account.

Type or complete the form in black ink. If you need more space, photocopy the pertinent page. When you have completed the form, indicate the page order and total number of pages (*e.g., 1 of 4, 2 of 4, etc.*) in the spaces provided in the upper right hand corner of each page.

Remember, under 40 CFR 72.21 and 73.33, you must notify the persons you represent in this transaction, either the owners or operators of the affected source and units, or persons with an ownership interest with respect to the allowances held, of all Acid Rain Program submissions.

EPA will accept Acid Rain Program submissions from either the authorized account representative (AAR) or the alternate AAR. (For unit accounts, the designated representative (DR) is the AAR and the alternate DR is the alternate AAR.)

If you need assistance, call the Acid Rain Hotline at (617) 674-7377.

STEP 4 If you are transferring allowances in perpetuity, note that the range of serial numbers for a unit's allocation is different beginning in the year 2000 because of the addition of Phase 2 units to the program, and again beginning in the year 2010, when certain set-aside and bonus allowance programs are terminated. You therefore must specify exactly which allowances are to be transferred for years 1995 through 1999, for years 2000 through 2009 and then for years 2010 and beyond.

STEP 5 EPA will not transfer allowances unless the allowances are in the transferor's account at the time EPA processes this request.

List by serial number the allowances to be transferred. You may specify a series of allowances having a common use date by entering the serial number of the first allowance in the series in "Start Number" and entering the serial number of the last allowance in the series in "End Number." Separate series or series having a different use date must be entered on different lines.

- Enter the Start Number and End Number in the appropriate columns; EPA recommends that you select a start number or end number that represents the start or the end of a pre-existing series in the transferor's account, so that series of allowances are not segregated unnecessarily, as would occur if you chose an intermediate start or end number.
- Enter the number of allowances to be transferred in the "Total" column.
- Verify the accuracy of your entries by computing one of the following simple equations reflecting the equivalent relationships:

Start Number = End Number – Total + 1
or
End Number = Start Number + Total – 1

Submission Instructions

If you are transferring allowances for purposes of compliance with SO_2 emission reduction requirements for a given year, EPA must receive this form no later than the Allowance Transfer Deadline (midnight of January 30 of the next year.) Send to the following address:

U.S. ENVIRONMENTAL PROTECTION AGENCY
ACID RAIN PROGRAM (6204J)
ATTN: ALLOWANCE TRACKING SYSTEM
401 M STREET, SW
WASHINGTON, DC 20460

Paperwork Burden Estimate

The burden on the public for collecting and reporting of information under this request is estimated at 2 hours per response. Send comments regarding this collection of information, including suggestions for reducing the burden, to: Chief, Information Policy Branch (PM-223), U.S. Environmental Protection Agency, 401 M Street, SW, Washington, D.C. 20460; and to: Paperwork Reduction Project (OMB#2060-0258), Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503. ***Do not send this form to these addresses; see the submission instructions above.***

United States
Environmental Protection Agency
Acid Rain Program

OMB No. 2060-0258

Allowance Transfer

For more information, see instructions and refer to 40 CFR 73.50 - 73.53.

Page ☐ of ☐

STEP 1
Enter account information about the transferor (in whose account the allowances currently reside)

Transferor:

ATS Account #
Authorized Account Representative (AAR) ID#
AAR Phone Number
AAR Fax Number

STEP 2
Enter account information about the transferee (into whose account the allowances are being transferred)

Transferee:

ATS Account #
Authorized Account Representative (AAR) ID#
AAR Phone Number
AAR Fax Number

STEP 3
Complete Steps 4 and 5
Both AARs should read the certification, print name, and sign and date

I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units or on behalf of the parties with an ownership interest with respect to the allowances held for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Transferor:

Name	
Signature	Date

Transferee:

Name	
Signature	Date

ATS Account # (from page 1)

STEP 4
Mark the box if all allowances listed below are to be transferred in perpetuity. To correctly list the allowances in perpetuity, refer to the instructions for this form.

☐ The allowances listed at Step 5 and the allowances with corresponding serial numbers insuccessive future year subaccounts will be transferred in perpetuity to the Transferee's account.

STEP 5
List the allowances to be transferred by serial number (see example).

You may specify single allowances or a series of allowances. In the total column, enter the total number of allowances to be transferred. Enter separate series or series with a different use date on a separate line.

Start Number *(12 digits)*	**End Number *(12 digits)***	**Total**
* * * *-* * * * * * * *	* * * *-* * * * * * * *	
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Submission Information

Mail to the following address:

U.S. Environmental Protection Agency
Acid Rain Program (6204J)
Attention: Allowance Tracking System
401 M Street, S.W.
Washington, D.C. 20460

Appendix B- Sample Procedures Manual

The following is a model procedures manual that EPA developed for states to assist in designing the administrative and quantitative elements of a set-aside. It is meant to be used as a starting point for states in designing their own procedures manual and/or additional materials for explaining program requirements to applicants. States can adapt any of the components of this document, use the language contained within, or develop an alternative format for their state's particular needs. Likewise, in developing a procedures manual, states may also find it helpful to look at the manuals developed as part of existing energy efficiency crediting programs.

Any specific programmatic elements in this sample are completely hypothetical, and are included only for instructional purposes. In particular, the example uses 2003 as the allowance year, and is based on a seasonal lag and a two-step application process. As such, in this example applicants would be applying for allowances during the May 1-September 30, 2002 ozone control period. In addition, "the Administrator" and the "XXXX Energy and Air Quality Office" are used interchangably in reference to the state office administering the program.

Sample Procedures Manual

Table of Contents

Introduction

This document presents procedures for the 2003 *NOx Budget Trading Energy Efficiency Set-Aside Program* administered by the XXXXX State Energy and Air Quality Office. The document is divided into two parts:

A. **General Information and Program Requirements.** This part provides a description of the program, including eligibility requirements for participants and energy efficiency actions, and additional program requirements. This part details the required application materials and the procedures involved in reviewing them. Included are discussions about each step necessary as part of the application process for set-aside allowances, including the initial application request project, executing an application agreement, reporting estimated and verified energy savings, and establishing a NOx Allowance Tracking System (NATS) account.

B. **Measurement and Verification (M & V) Guidelines.** This part provides guidelines for applicants to follow when conducting M & V activities.

Part 1. General Information and Program Requirements

Section 1: Program Description

The State of XXX Energy Efficiency/Renewable Energy Set-Aside is an effort by the State of XXX to encourage new energy efficiency and renewable energy actions, by offering NOx allowances to qualified parties for the emissions reductions achieved through voluntary energy efficiency and renewable energy efforts, under the NOx Budget Trading Program. Energy efficiency and renewable energy actions can help reduce the regional transport of ground-level ozone through reductions in NOx, while reducing other conventional air pollutants.

This program offers NOx allowances to entities that develop energy efficiency or renewable energy projects delivering verifiable electric energy savings during the summer ozone season, May 1-September 30. Qualified projects can receive NOx allowances for up to three years as part of this program.

To encourage the development of projects that provide savings levels greater than those typically achieved in retrofit or replacement projects, the program bases energy savings on current State and federal minimum efficiency standards or on current standard practice. Energy savings will be based on existing energy usage *only* in cases where no minimum efficiency standards or current standard practices exist.

Participants in the program must meet minimum eligibility criteria, comply with all program rules and procedures, submit standard forms and supplemental documentation describing their projects, and enter into a Application Agreement with the XXX Office of Energy and Air Quality. Furthermore, program participants must also adhere to measurement and verification (M&V) guidelines and reporting requirements throughout the term of the Agreement.

Section 2: Eligibility

2.1 Applicant Eligibility

This program is open to energy end-users, such as commercial, industrial and residential facility owners or tenants that meet program requirements. More than one applicant may not receive allowances for each project submitted for allowances. Entities may share allowances with other involved parties after the applicant has received allowances for the submitted project, but the State will render multiple (or duplicate) applications ineligible.

The maximum NOx allowance award will be XX% of the 2003 set-aside budget for a single applicant. Contact the XXX Office of Energy and Air Quality with any questions regarding applicant eligibility.

2.2 Project Eligibility

Eligible energy efficiency measures must reduce electric energy consumption at the project site, and this reduction must be measurable and verifiable. Retrofit efficiency and renewable energy projects are eligible; fuel-switching projects are not eligible. New construction may be considered on a case-by-case basis. Cost effective renewable energy projects are encouraged to apply.

The following table provides a list of pre-approved energy efficient measures, and technologies or measures that are not eligible under the program. Any measures that are not listed will be considered on a case-by-case basis.

Pre-Approved Measures

Lighting Technologies	Motors/Other Pre-Approved Measures
T-5 or T-8 lamps: Eligible technologies include Fluorescent lamps with electronic or high-efficiency Magnetic ballasts. **Occupancy Controls:** Infrared or ultrasonic Occupancy sensors and interface installed where Existing controls do not exist. **Daylight Dimming Controls:** Photocell control System to adjust lighting level installed where Existing controls do not exist. **Incandescent to Hardwired CFL:** Permanently Attached compact fluorescent fixtures to replace Standard incandescent lamps. **High Pressure Sodium or Metal Halide:** High pressure sodium or metal halide fixtures to Replace mercury vapor lamps. **LED Exit Signs:** Light emitting diode exit signs to replace standard incandescent signs. **LED Traffic Signals:** Continuous operation Signals. Red or green incandescent traffic signal Lights replaced with light emitting diode traffic Lights and pedestrian signals. **Energy Efficient Labeled Products** **Energy Star:** Labeled office equipment, consumer products, building systems, lighting, HVAC equipment, motors, pumps, roof products, transformers, agricultural fans, insulation and windows.	**Premium Efficiency Motors:** Permanently wired motors over 1 hp, operating over 2,000 hours per year. **Variable Speed Drives:** VSD motor control to replace single speed motor control. Savings calculated on direct motor savings only. **Economizer:** System must use outside air to reduce cooling or heating loads and operate automatically. Does not include repair of an existing economizer. **EMS System:** Energy Management System controlling HVAC or lighting loads. Does not include repair or activation of an existing EMS system. **Heat Pump Water Heaters:** Commercial or domestic hot water heating system replacing existing electric resistance heating system. **Cooling** This category is aimed at technologies that reduce summer peak demand. **Unitary A/C Unit Replacement:** Factory made direct expansion space cooling system with self contained or matched split evaporator coils. **Chiller Replacement:** New chiller and associated condenser resizing for space cooling applications only. Chilled water loop pump and condenser motor controls would be incented under motor category if chiller is not replaced.

List adapted from NYSERDA Standard Performance Contract Program

Technologies Not Eligible Under the Program

- Technologies with a measure life of under 5 years
- All technologies that are below Federal and State minimum standards
- All measures that are removable without the use of tools, such as screw-in compact fluorescent lamps
- Projects that save energy through operational changes (i.e. changing hours of operation or function of a facility)
- Load shifting technologies
- All measures that do not reduce electrical consumption
- Fuel-switching projects (except to renewables)
- Repair or maintenance projects

2.3 Custom Measures

For measures that are not pre-approved, the state will review profile information provided by the application to determine if a custom measure is eligible for set-aside allowances on a case-by-case basis. Contact the XXX Energy and Air Quality Office for additional information about custom measures.

2.4 Project Eligibility

The minimum project size will produce one ton of NOx emissions savings per year where savings are based on those incurred during the summer ozone season. Projects with savings potential of less than one ton may be aggregated with other sites to develop a project that meets the minimum size requirement.

For the purpose of meeting the eligibility requirements, a project consists of all energy efficiency measures and any associated equipment or improvements that are installed, maintained, or operated by a particular energy user to achieve the energy savings claimed within a single Application Agreement.

A site may consist of one or several adjacent buildings owned or operated by a single entity. Buildings owned or operated by a single entity on a contiguous site may not be treated as separate sites, although they may be treated as separate projects at the applicant's option. One project may include multiple sites.

2.5 Aggregation of Sites

Sites may be aggregated to meet the minimum project savings of one ton of NOx per year subject to the following conditions:

- Up to five sites with different measures and energy usage profiles may be aggregated to meet the minimum NOx savings requirement; or

- Any number of similar sites with identical measures, energy use profiles, and M&V plans may be included in one project.

2.6 Credit for Early Action

Because this is the first year of the set-aside program, a project initiated in the three years prior to initiation of this program can be eligible for the 2003 set-aside allowance pool. Once accepted, these projects will receive a three-year stream of allowances. However, after the current year, projects initiated these early actions will not be eligible for entry into the set-aside program.

2.7 Other Limitations

Projects receiving funds from any other state or federally administered program are ineligible.

Section 3: NOx Allowances

3.1 Set-Aside Allowances

A total of XXXX allowances, X% of the state of XXX's NOx Budget Trading Program energy efficiency set-aside allowances have been set aside for 2003.

Applications for a three year stream of allowances will be accepted from applicants only on a first-come, first-served basis until total allowances are committed. Initial project applications must be received by May 1, 2003.

Program rules, procedures, and the posted incentive levels are subject to change on a yearly basis.

A project's total allocation of allowances is calculated by multiplying these rates by the average annual energy savings (one full year of energy savings) achieved by the project over the two-year measurement and verification period.

3.2 Receiving Allowances

After the applicant's initial application for set-aside allowances is approved, the applicant is responsible for submitting a completed NOx Allowance Tracking System (NATS) account to the appropriate Authorized Account Representative. A NATS account is required to be able to receive allowances under the NOx Budget Trading Program. The NATS system is administered by the U.S. Environmental Protection Agency's Clean Air Markets Division.

The Authorized Account Representative for the State of XXXX is:
Mr./Ms. XXXXX

Completed NATS forms can be submitted to:

Mr./Ms. XXXXX
Authorized Account Representative
State Address

Section 4: Program Procedures and Submittals

The procedures and submittals required as part of the State of XXX Energy Efficiency and Renewable Energy Set-Aside Program are coordinated with the three phases of the program:

- Project planning/application period, before May 1, 2002
- During the ozone control period, between May 1-September 30, 2002
- After the ozone control period, after October 1, 2002.

An overview of the application procedures is shown in the following flow chart, based upon the three time periods. Detailed instructions on how to complete the each submittal will be included with the required forms in the application.

Project planning/application period

Task 1: Applicant **Initial Project Application (IPA)**	Notifies the Administrator that the applicant will be requesting allowances from the pool of allowances set aside for energy efficiency and renewable energy actions. Lists: ▪ Project Type (lighting, HVAC, motors, etc.) ▪ M&V methodology and plan ▪ Estimated energy savings and associated number of allowances

↓

Task 2: State **Notification of Approval of IPA**	Administrator reviews the IPA regarding: ▪ Projects/Applicant meets eligibility criteria ▪ Applicant's proposed M&V methodology and estimated energy savings

↓

Task 3: Applicant **Submits modifications to IPA (if needed)**	Makes changes to the IPA as necessary, based on the Administrator's comments.

↓

Task 4: Applicant **Notification of Intent to Proceed**	Notifies the administrator that the project will be undertaken and when work will begin, if not in place May 1.

↓

Task 5: State **Reservation of NOx Allowances**	Notifies applicant that a conditional 3 year allowance stream has been reserved for the applicant. ▪ Exact amount to be finalized after the particular ozone control period, and energy savings are measured and verified

During the ozone control period

Task 5: Applicant **NATS account application**	Applies to Authorized Account Representative for a NATS general account.

↓

Task 6: Applicant **Notice of Project Status (optional)**	Informs the Administrator as to any project changes that may alter the amount of allowances awarded to the project.

After the ozone control period

Task 5: Applicant **Notice of Ozone Control Period Results**	Applicant measures ozone season energy savings and reports savings to the Administrator. ▪ Explains how results have been measured and verified ▪ Translates energy savings into NOx emissions reductions

↓

Task 6: State **Notice of Allowance Crediting**	The Administrator reviews claimed ozone season results and methodology. ▪ Notifies EPA to issue NOx allowances to applicant's NATS account for the 2003 ozone season. ▪ Notifies the applicant that the allowances have been credited to the applicant's NATS account.

↓

Task 7: State **Claiming Subsequent Year Savings**	The State submits OCP for year 2, and a year later for year 3, after ozone season results for the subsequent year(s) have been measured and verified.

4.1 Initial Project Application (IPA)
The first step in the application process is for the applicant to submit a completed IPA for its proposed project. By submitting an IPA, the applicant is requesting allowances be reserved for a proposed project at a specified project site.

The IPA includes information about the facility where the proposed project will be installed and a general project description, including estimated energy savings and associated emissions reductions. The IPA must also include an M&V plan detailing how savings will be verified, according to M&V guidelines issued by the State of XXXX, such as who will do the work, what type of metering equipment will be used, when the metering will be done, and the calculation and calibration methods to be used.

IPAs will be accepted until the allowances for the year have been committed. The deadline for submitting an IPA is May 1, 2002.

Allowances for a project are reserved only upon the Administrator's written approval of the IPA.

Final allocation of the allowances is contingent upon the applicant submitting a Notice of Ozone Control Period Results within the specified time frame, which is 10 days after the conclusion of the ozone control period, October 10, 2002.

4.2 Application Agreement
The Application Agreement is submitted in tandem with the IPA. It states that all information that the applicant submits as part of the set-aside program is correct and accurate. The administrator will cease evaluating and return all submittals from any applicant who submits any false or misleading information.

4.3 Notification of Intent to Proceed
The notification informs the Admistrator that the project will be undertaken, and when energy efficient measures will begin, if project commencement is expected after May 1, 2002.

4.4 M&V Reporting
During the three-year performance period, applicants must conduct M&V activities as specified in their M&V Plan. Within 10 days following the end of each ozone control period, an annual
M&V Report must be prepared by the applicant and submitted to the Administrator. The M&V Report will be included as part of the OCP.

4.5 Notice of Ozone Control Period Results (OCP)
The OCP contains the applicant's quantified results of energy savings for the relevant ozone control period. The notice will explain how results have been measured and verified. The M&V Reports must include clear and verifiable data and describe the baseline assumptions and calculations used to calculate actual energy savings. The OCP results will become the basis for the amount of allowances the project will recieve.The notice may require a detailed account about the pre- and post-retrofit equipment, such as equipment counts, efficiencies, operating schedules, nameplate data, building occupancy, and engineering calculations and stipulations used to estimate energy savings, depending on the particular M & V methodology (detailed in Part 2) that the applicant has chosen.

4.6 Notice of Allowance Crediting

The Administrator will notify EPA to issue allowances to the applicant after reviewing, verifying, and approving the OCP. Each allocation will be based on the total verified energy savings. The Administrator reserves the right to adjust for differences between the estimated and verified energy savings and reconciling the allocation amount accordingly.

The Administrator will notify EPA to issue the allowances to the applicant's NATS account within 30 days upon receipt of the OCP. The allowances will be available for trade in 2003.

4.7 Claiming Subsequent Year Savings

The applicant will submit verified ozone season electricity savings for the second and third ozone season in a new OCP for the two subsequent years following the initial application year. Based on OCP results, the applicant may receive a different number of allowances for a subsequent year if energy savings/displacements increase or decrease.

Section 5. Application Approval/Rejection Process

5.1 Initial Project Application

The XXXX Office of Energy and Air Quality will reserve allowances for the applicant if the initial project application is accepted.

The Administrator reserves the right to reject an initial project application for any reason including, but not limited to, the following:

a) The State's receipt of an initial project application occurs after the set-aside program is fully subscribed or after May 1, 2002; or
b) Project fails to meet Program requirements; or
c) Applicant fails to submit a complete initial project application or the required supporting documentation; or
d) Intentionally includes misrepresentations in the Project or energy savings; or
e) The project fails to comply with applicable federal, state and local laws and regulations; or
f) The State determines that the applicant will not be able to fulfill the terms or conditions of the Application Agreement.

If the Administrator deems the Initial Project Application incomplete or insufficient, the Administrator will provide written notification rejecting the Initial Project Application within 30 days of receipt, if the application was received after April 1, 2002. If the application was received before April 1, 2002, the Administrator will issue a notification of the modifications required for the project to be approved.
The EESP may resubmit the Initial Project Application before May 1, 2002.

If the Administrator deems the Initial Project Application complete but incorrect, the Administrator may make an adjustment to the savings and incentive estimates, and will notify the applicant of any adjustments in writing.

Section 6.0 Additional Information

6.1 Preparing and Submitting Materials

All submissions for the State of XXX's Energy Efficiency Set-Aside Program must be sent to the address listed below.

XXXX Program Administrator
XXXX Energy and Air Quality Office
XXXX Street
City, State XXXXX

The Administrator will date-stamp and log all program materials as they are received. The Administrator recommends that applicants send all program materials via certified or registered mail. It is the sole responsibility of the applicant to ensure that the Administrator receives applicable program materials at the designated address by close of business on the applicable due date. The applicant should retain proof of delivery (such as a return receipt for certified, registered, or overnight mail) for all program materials submitted.

Appendix C- Sample Application Forms and Documentation Materials

The following sample forms are included for a state administering an energy efficiency and renewable energy set-aside:

- Appendix C-1. Sample Initial Project Application (IPA) Form
  (to be completed by applicant)
- Appendix C-2. Sample Application Agreement
  (to be completed by applicant)
- Appendix C-3. Sample Notification of Approval of IPA/Modifications Required
  (to be completed by the state)
- Appendix C-4. Sample Notice of Intent to Proceed
  (to be completed by applicant)
- Appendix C-5. Sample Notice of Allowance Reservation
  (to be completed by the state)
- Appendix C-6. Sample Notice of Project Status
  (to be completed by applicant)
- Appendix C-7. Sample Notice if Ozone Control Period Results
  (to be completed by applicant)
- Appendix C-8. Sample Notice of Allowance Crediting
  (to be completed by the state)
- Appendix C-9 Sample Notice of Insufficient Submission
  (to be completed by the state)
- Appendix C-10. Sample Resubmission of Ozone Season Savings
  (to be completed by applicant)

In reviewing these forms, it is recommended that states refer back to the flow chart for the one-step and the two-step application process included in Chapter 8.

Appendix C-1. Initial Project Application (IPA) Form

For administrative use only:	
Assigned project code:	
Date received:	

SECTION A

Please provide the following information for the entity *requesting* allowances:

Entity name:		Contact person:	
Address:		Phone number:	
		Fax:	
		Email:	

Relationship to project, e.g., owner, ESCO, etc.

Please attach the names and contact information for any additional entities who could potentially submit duplicate allowance claims for the same project(s).

SECTION B

Please provide the following information for each project site:

Project site #1

Type of facility:		Contact person:	
Project site name:		Phone number:	
Address:		Fax:	
		Email:	

Project site #2

Type of facility:		Contact person:	
Project site name:		Phone number:	
Address:		Fax:	
		Email:	

Please attach duplicates of this form for any additional project sites.

Appendix C-1. Initial Project Application (Cont.)

SECTION C

Project type and overview: (HVAC, Lighting, Variable Load, Constant Load, Insulation, etc.)

Please describe the proposed project and include the type and quantity of equipment affected by this project, i.e., 5 HVAC systems, 10,000 light bulbs, etc. and any fuel switching that will occur. If additional space is required, please attach.

SECTION D

Measurement and Verification Methodology:

Please explain the project measurement and verification methodology below and attach a detailed measurement and verification plan with diagrams and any other pertinent information requested in the M&V Guidelines. If additional space in required, please attach.

SECTION E

Project Installation Completion Date:

SECTION F

Historic data:

Please attach any documents related to energy consumption or billing data that will facilitate our review of your proposed project.

Appendix C-1. Initial Project Application (Cont.)

SECTION G

Estimated savings level due to project:

Please fill in the table below to calculate estimated kWh savings.

Type of Electricity End Use (Lighting, HVAC,etc.)	Energy Efficiency Measure (EEM) and Quantity of Equipment (e.g. 500 T-8 lamps)	kW Savings per Measure	Ave. Ozone Season Hours of Operation	Estimated kWh Savings

Appendix C-2 Application Agreement

I, _____, the undersigned participant in the State of _____ Energy Efficiency and Renewable Energy Program, recognizes and accepts that participation in this Program, and receipt of any allowances, is predicated on the participant following all guidelines and procedures established for the Program.

These requirements include, but are not limited to:

- Following program procedures as detailed in the ___ year Procedures Manual and M& V Guidelines
- Meeting all submittal progress timelines
- Meeting all submittal requests to the satisfaction of the program office
- All information submitted is accurate

I understand that eligibility to this program is contingent on meeting the above requirements.

_____ _____

Project Sponsor Name Date

Appendix C-3. Notification of Approval of IPA/Notification of Modifications Required

STATE REVIEW

1. Does the equipment specified in the proposed project have the potential to produce the claimed level of savings? If "no" please explain.

Y _____ N _____

2. Will savings likely occur during ozone season? If "no," please explain.

Y _____ N _____

3. Will the measurement and verification plan adequately capture accurate savings results? If "no," please explain.

Y _____ N _____

4. Additional comments:

Appendix C-3. Notification of Approval of IPA/Notification of Modifications Required (Cont.)

Project code:

Please check appropriate box

Project Accepted ☐ **Modifications Required** ☐

If project is accepted, please complete and submit the attached Notice of Intent to Proceed

If project requires modifications and you would like to continue pursuing NOx allowances, please address the following modifications in a revised IPA, and attach with a completed *Notice of Intent to Proceed*

Appendix C-4 Notice of Intent to Proceed

Project Code:	

Please check the appropriate box

	Yes	No
Modifications made to original Notice of Intent (If modification made, be sure to attach documentation regarding changes in a revised IPA)		

I, _____ ,hereby state that I am a legitimate representative of _____ and agree to all state regulations regarding allowance crediting from energy efficiency projects. By signing this document, I am also authorizing the state of _____ to audit this energy efficiency project for purposes of verifying that the energy savings measures have been installed and that the measurement and verification of energy savings being carried out is in accordance with the approved measurement plan.

Please reserve _____ NOx allowances for the (Date) ozone season for this project.

Signature _____

Title _____

Modifications Undertaken

Appendix C-5. Notice of Allowance Reservation

Project code:	

Thank you for submitting the required forms to participate in the NOx set aside allowance program. Based on the material submitted, the state of _____ has reserved _____ one ton allowance(s) from the state set-aside allowance budget for this project for the (Dates) ozone seasons.

The reserved allowances will be credited to your NATS account after your first ozone season savings are measured and verified, and submitted to the program office in a completed *Notice of Ozone Control Period Results Form.*

Appendix C-6. Notification of Ozone Control Period (OCP) Results

Must be submitted by October 10

Project Code:	

SECTION A

Energy Savings Data:

Please complete the following table(s) describing savings achieved at the project site.
Use a separate table for each efficiency measure, e.g., lighting, HVAC, Insulation, etc.
Provide the M&V method used to calculate energy savings, from M&V guidelines manual.
Include, in a manner consistent with the approved M&V plan, how the baseline was determined, e.g., historical average, adjusted cooling degree days, etc.
Please explain any adjustments or normalizations made in the adjustments area.
If additional tables are required, please attach additional copies of this form

Energy Savings Data	
Project Site #:	
Energy Efficiency Measure:	
M&V Method:	
How Baseline Determined:	

	Pre-retrofit data	Post-retrofit data: 1st Season Results (kWh)	Adjustments	Net Energy Savings (kWh)
May				
June				
July				
August				
September				
			Total kWh saved during ozone season	

Energy Savings Data	
Project Site #:	
Energy Efficiency Measure:	
M&V Method:	
How Baseline Determined:	

	Pre-retrofit data	Post-retrofit data: 1st Season Results (kWh)	Adjustments	Net Energy Savings (kWh)
May				
June				
July				
August				
September				
			Total kWh saved during ozone season	

If a regression analysis was used to calculate ozone season savings, please include both billing data and documentation regarding the results of the regression analysis.

Appendix C-6. Notice of Ozone Control Period Results (Cont.)

Must be submitted by October 10

SECTION B

Fuel Use Increase Data

To be completed if fuel switching has occurred at an area source (i.e., non-core source.)

Please provide the state with information regarding any fuel switching due to the project. This section will be used to determine NOx increases from increased on-site fuel combustion.
(For example: switching an electric water heater to a gas water heater)
Use a separate table for each action.
Include, in a manner consistent with the approved M&V plan, how the baseline was determined, e.g., historical average, adjusted cooling degree days, etc.
If additional tables are required, please use supplemental Form 7s, Section B.

Fuel Use Increase	
Project Site #:	
Fuel Switching Action:	
Fuel Type:	
M&V Method:	
How Baseline Determined:	

	Pre-retrofit data	Post-retrofit data: 1st Season Results (Btu)	Adjustments	Net Fuel Combustion Increase (Btu)
May				
June				
July				
August				
September				
	Total Btu combustion increase during ozone season			

Fuel Use Increase	
Project Site #:	
Fuel Switching Action:	
Fuel Type:	
M&V Method:	
How Baseline Determined:	

	Pre-retrofit data	Post-retrofit data: 1st Season Results (Btu)	Adjustments	Net Fuel Combustion Increase (Btu)
May				
June				
July				
August				
September				
	Total Btu combustion increase during ozone season			

Appendix C-7. Notice of Allowance Crediting

Must be returned to applicant 30 days upon receipt of OCP

Project code:	

The State of _____ has approved your Notice of Ozone Control Period Results (OCP) and has notified EPA to issue _____ of the of the reserved NOx allowances to NATS account # _____.
for the (year) ozone season trading.

This project is eligible for an additional 2 ozone seasons of allowances provided the savings persist. These additional allowances are reserved for this project in the State's account. To claim these subsequent-year allowances, savings must be submitted for the pertinent ozone seasons using a completed OCP.

Appendix C-8. Notice of Insufficient Submission

Must be returned by October 31

Project code:

The state of _____ has reviewed your Notice of Ozone Control Period Results and found that your claimed savings are not acceptable based on the original Notice of Intent to Proceed. If you would like to continue pursuing NOx allowances, the following deficiencies need to be addressed and resubmitted within *2 weeks* of receiving this form or the allowances reserved for this project will be released.
If the allowances are released, you may resubmit the amended Notice of Ozone Control Period Results - to secure an allowance stream for the next ozone season.

Deficiencies

Appendix C-9. Resubmission of Ozone Control Period Savings

Must be resubmitted within 2 weeks of receiving Notice of Insufficient Submission

In response to the state's finding of measurement deficiencies, (Claimant) , has recalculated NOx reductions due to the project as follows.

Corrected Ozone Season Results

SECTION A

Energy Savings Data:

Energy Savings Data	
Project Site #:	
Energy Efficiency Measure:	
M&V Method:	
How Baseline Determined:	

	Pre-retrofit data	Post-retrofit data: 1st Season Results (kWh)	Adjustments	Net Energy Savings (kWh)
May				
June				
July				
August				
September				
			Total kWh saved during ozone season	

Energy Savings Data	
Project Site #:	
Energy Efficiency Measure:	
M&V Method:	
How Baseline Determined:	

	Pre-retrofit data	Post-retrofit data: 1st Season Results (kWh)	Adjustments	Net Energy Savings (kWh)
May				
June				
July				
August				
September				
			Total kWh saved during ozone season	

If a regression analysis was used to calculate ozone season savings, please include both billing data and documentation regarding the results of the regression analysis.

Appendix C-9. Resubmission of Ozone Control Period Savings

Must be resubmitted within 2 weeks of receiving Notice of Insufficient Submission

SECTION B

	Fuel Use Increase			
	Project Site #:			
	Fuel Switching Action:			
	Fuel Type:			
	M&V Method:			
	How Baseline Determined:			
	Pre-retrofit data	Post-retrofit data: 1st Season Results (Btu)	Adjustments	Net Fuel Combustion Increase (Btu)
May				
June				
July				
August				
September				
	Total Btu combustion increase during ozone season			

	Fuel Use Increase			
	Project Site #:			
	Fuel Switching Action:			
	Fuel Type:			
	M&V Method:			
	How Baseline Determined:			
	Pre-retrofit data	Post-retrofit data: 1st Season Results (Btu)	Adjustments	Net Fuel Combustion Increase (Btu)
May				
June				
July				
August				
September				
	Total Btu combustion increase during ozone season			

Appendix D- Additional Documentation and Reporting Materials

The previous two appendixes include sample materials for documenting information exchanges between the state and applicants, based on either a one- or a two-step application process. In addition, states can utilize other documentation and reporting materials to be exchanged after the project has been initiated, to stay informed on the progress of projects that are being submitted for set-aside allowances. These include:

- Appendix D-1. Notice of Project Status
- Appendix D-2. Notice of Work Commencement
  Notice of Work Completion

In reviewing these forms, it is recommended that states refer back to the discussion on additional forms and reporting materials in Chapter 8.

Appendix D-1. Notice of Project Status

Project code:	

I, _____, hereby notify the state of _____ about the following changes to the proposed energy savings listed in my project's IPA.

Signature _____ **Date** _____

Title _____

Explanation:

Appendix D-2. Notice of Work Commencement/Completion

Project code:	

I, _____, hereby notify the state of _____ that work to install the energy saving devices/mechanisms stated in my IPA is complete.

Signature _____ **Date** _____

Title _____

Explanation:

Appendix E- Energy Efficiency and Renewable Energy Set-Aside Workgroup

EPA Workgroup Representatives

Anna Garcia, Office of Atmospheric Programs

Doug Grano, Nancy Mayer & Annie Nikbaht,
Office of Air Quality Planning & Standards

Ethan McMahon
Office of Policy

Bruce Smith & Paul Wentworth
EPA Region 3

Dave Jesson & Karina O'Connor
EPA Region 9

State Air & Energy Workgroup Representatives

Rob Sliwinski
NY State Dept of Environmental Conservation

Rich Driscoll
MA Dept of Environmental Protection

Janet McCabe
IN Dept. of Environmental Management

Carolyn Garber
WI Dept of Natural Resources

Lynn Terry & Edie Chang
California Air Resources Board

Joe Fontaine
NH Dept. of Environmental Services

Peter Smith & Carl Michaels
NY State Energy Research &
Development Authority (NYSERDA)

Pat Stanton
MA Division of Economic Development

Cheryl DeVol-Glowinski
IN Dept. of Commerce

Pat Meier
WI Energy Bureau

Michael Jaske
California Energy Commission

Van Jamison & Bob Reisch
MT Dept. of Environmental Quality

State Associations

Jeff Genzer, George Burmeister & Chuck Guinn, National Association of State Energy Officials

Gail Greaves, State and Territorial Association of Pollution Program Administrators

GLOSSARY

Allocation Period: For purposes of the energy efficiency and renewable energy NO_x set-aside, the allocation period is defined as the period during which emission allowances are awarded to energy efficiency and renewable energy actions. The allocation period can extend beyond one control period.

Anyway Tons: Tons of NO_x and/or other emissions that are already being prevented, due to energy efficiency and renewable energy actions presently implemented, or are likely to be undertaken without any extra incentives.

Area Sources: Stationary and non-road sources that are too small and/or too numerous to be handled individually as point sources, but which can contribute collectively to ozone formation. Two broad groups of area sources emit evaporative emissions and fuel combustion emissions. Area source emissions have historically been underestimated because of few appropriate inventory procedures or little emphasis on obtaining area source data.

Biomass: Materials that are biological in origin, including organic material (both living and dead)from above and below ground, constituting a renewable energy source. Examples include trees, crops, grasses, tree litter, roots, animals and animal waste.

Btu (British Thermal Unit): A standard unit for measuring the quantity of heat energy equal to the quantity of heat required to raise the temperature of one pound of water by one degree Fahrenheit.

Continuous Emissions Monitors (CEMs): Equipment used to sample, analyze, measure, and provide, by readings taken at least once every 15 minutes of the measured parameters, a permanent record of NO_x emissions, expressed in tons per hour of NO_x.

Control Period: The summer ozone season beginning May 1 of a year and ending on September 30 of the same year, inclusive, during which NO_x emissions from core sources cannot exceed the allowance held or purchased by that source.

Combined Heat and Power (CHP): Integrated technologies, including cogeneration, which convert fuel to electric, thermal, and mechanical energy for on-site or local use. In the case of electricity generation CHP can include export of power to the local electric utility transmission grid. The thermal energy from CHP systems can be created and used in the form of steam, hot or chilled water for process, space heating or cooling, or other applications.

Core Sources: Primary NO_x emitting sources granted allowances by the EPA under a state NO_x budget. For the purposes of the energy efficiency and renewable energy set-aside, allowance will only be credited for electricity reducing measures that lower demand from electricity generating units (EGUs) larger than 25 MW.

Criteria Air Pollutant: Pollutants determined to be hazardous to human health and regulated under EPA's National Ambient Air Quality Standards (NAAQS). These currently include NO_2, SO_2, CO, PM (particulate matter), lead, and ozone (of which NO_x and VOCs are precursors). The 1970 amendments to the Clean Air Act require EPA to describe the health and welfare impacts of a pollutant as the criteria for inclusion in the regulatory regime.

Demand-Side Management (DSM): The planning, implementation, and monitoring of utility activities designed to encourage consumers to modify patterns of electricity usage, including the timing and level of electricity demand. It refers only to energy and load-shape modifying activities that are undertaken in response to utility-administered programs. It does not refer to energy and load-shape changes arising from the normal operation of the marketplace or from government-mandated energy-efficiency standards. Demand-Side Management (DSM) covers the complete range of load-shape objectives, including strategic conservation and load management, as well as strategic load growth.

Distributed Renewable Energy Resources: Renewable energy resources located close to load centers or at customer sites. For example, photovoltaic system located on the roof of an electricity consumer.

Electric Generating Unit (EGU): Any combination of physically connected generator(s), reactor(s), boiler(s), combustion turbine(s), or other prime mover(s) operated together to produce electric power.

Emissions: Anthropogenic (human caused) releases of hazardous gases or particulate into the atmosphere (e.g., the release of NO_x during fuel combustion).

Emission Factor: A unique value for scaling emissions to activity data in terms of a standard rate of emissions per unit of activity (e.g., pounds of NO_x emitted per kWh).

Energy Efficiency: Refers to programs that are aimed at reducing the energy used by specific end-use devices and systems, typically without affecting the services provided. These programs reduce overall electricity consumption, often without explicit consideration for the timing of program-induced savings. Such savings are generally achieved, by substituting technically more advanced equipment to produce the same level of end-use services (e.g., lighting, heating, motor drive) with less electricity. Examples include high-efficiency appliances, efficient lighting programs, high-efficiency heating, ventilating and air conditioning (HVAC) systems or control modifications, efficient building design, advanced electric motor drives, and heat recovery systems.

Energy Efficiency and Renewable Energy NO_x Set-aside Pool: A portion of a state's NOx emission budget reserved to encourage and promote energy efficiency and the use of renewable energy.

Energy Star Voluntary Programs: Voluntary public-private sector partnership programs administered by EPA and DOE to help facilitate and encourage the adoption of cutting-edge energy efficient technologies and installation of energy-efficient equipment and measures.

Fossil Fuel: Any naturally occurring organic fuel formed in the earth's crust, such as petroleum, coal, or natural gas.

General Account: A NO_x Allowance Tracking System (NATS) account, which is not a compliance or an overdraft account. An applicant for set-aside allowances is required to set up a general NATS account.

Life-Cycle Energy Savings: The total energy savings achieved by a project or program during the course of its life.

Measurement and Verification Protocol (M&V): A standard approach to measuring and verifying energy savings due to the implementation of energy efficiency programs.

Mobile Source: Mobile sources are divided into two categories: on-road (highway) such as automobiles, trucks, and motorcycles, and non-road such as trains, airplanes, agricultural equipment, industrial equipment, construction vehicles, off-road motorcycles, marine vessels, and other site-specific vehicles.

Model Energy Code (MEC): A set of standards and codes that establish the minimum energy efficiency recommendations for the construction of new one- and two-family homes and low-rise (three stories or less) multifamily buildings and additions to existing buildings.

National Ambient Air Quality Standards (NAAQS): Maximum air pollutant standards that EPA set under the Clean Air Act for attainment by each state. The standards were to be achieved by 1975, along with State Implementation Plans to control industrial sources in each state. A schedule has been established by the Clean Air Act for the areas of the country that are currently in non attainment for the criteria pollutants to achieve the NAAQS.

Nitrogen Oxides (NO_x): A criteria pollutant that is a precursor to ground level ozone (smog). The primary source of emissions is the combustion of fossil fuels. NO_x emissions are related to air-fuel mixes and combustion temperatures during the burning of fuels.

NO_x Allowance: An authorization by the permitting authority under the NO_x Budget Trading Program to emit up to one ton of NO_x during the control period of the specified year or of any year thereafter.

NO_x Budget Trading Program: A multi-state NO_x air pollution control and emission reduction program established as a means of mitigating the interstate transport of ozone and NO_x, an ozone precursor.

Off-Site Fuel Consumption: Fuel consumption at electric generating stations that produce electricity to meet the needs of residences, businesses, and industries.

On-Site Fuel Consumption: Fuel consumed at industrial, commercial, or residential locations. Examples include a chemical manufacturer that burns natural gas in a boiler to produce steam at the facility, or a residential consumer who burns natural gas in their hot water heater at home.

Ozone: A molecule made up of three atoms of oxygen. Occurs naturally in the stratosphere and provides a protective layer shielding the earth from harmful ultraviolet

radiation. In the troposphere, it is a chemical oxidant, a greenhouse gas, and a major component of photochemical smog.

Ozone Non-Attainment Area: A region, defined up to the county level that is not in compliant with EPA's NAAQS standard for ozone.

Permitting Authority: The state air pollution control agency, local agency, other state agency, or other agency authorized to issue or revise permits to meet the requirements of the NO_x Budget Trading Program.

Point Sources: Pollution emanating from a specific source such as a factory and released at a known discharge point.

Quad: Quadrillion Btu (1×10^{15} Btu.) A standard unit for measuring large quantities of energy.

Renewable Energy: Energy obtained from sources that are essentially inexhaustible or regenerative (unlike, for example, the fossil fuel, of which there is a finite supply). Renewable sources of energy include wood, waste, geothermal, wind, photovoltaic, and solar thermal energy.

Renewable Portfolio Standard: A standard that requires an electric retailer to supply a portion of its electricity from renewable energy resources.

State Implementation Plan (SIP): Air quality plans which include an analysis of the sources of pollution (emission inventory), a strategy to attain and maintain the NAAQS by reducing emissions from key sources (attainment or maintenance demonstration), and enforceable regulations to carry out the strategy.

Supply-side Energy Efficiency Projects/Programs: Energy efficiency projects or programs implemented by an electricity generator that reduces its energy consumption without affecting the quantity of electricity supplied. These measures are not eligible to be credited under the energy efficiency and renewable energy set-aside.

Supply-side Renewable Energy Projects/Programs: Renewable energy programs and projects implemented by an electricity generator or third party that generate electricity for the grid or reduce its consumption of grid-based electricity.

Summer Ozone Season: May 1 through September 30. Period when public health is most at risk from smog due to ample sunlight and warm temperatures. Peak ozone concentrations typically occur during hot, dry, stagnant summertime conditions, i.e., high temperature and strong solar insolation. The strong seasonality of ozone levels makes it possible for areas to limit their ozone monitoring to a certain portion of the year, the ozone season.

System Benefit Charges (SBC): A system-wide charge assessed on the beneficiaries of a distribution system to fund energy efficiency and renewable energy projects as well as the provision of public benefit services such as life-line rates.

Up-Front Cost: The initial costs of implementing a project or program.