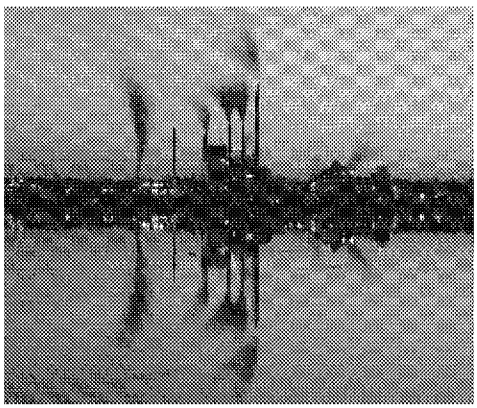
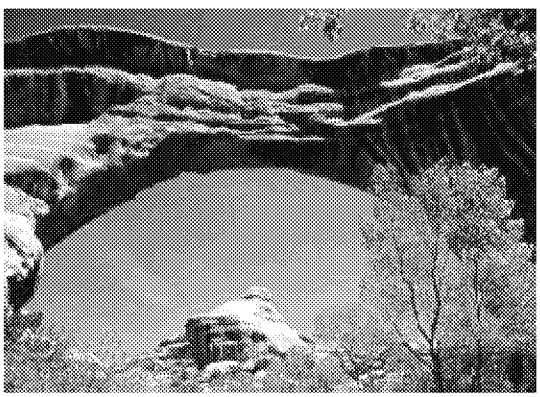
United States
Environmental Protection
Agency

Office of Air and Radiation

EPA-452/R-01-001
January 2001

Improving Air Quality with Economic Incentive Programs





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EPA-452/R-01-001

IMPROVING AIR QUALITY WITH ECONOMIC INCENTIVE PROGRAMS

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U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Air and Radiation
Office of Air Quality Planning and Standards

January 2001

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SELECTING AND APPROVING EIPS

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1.0 General

1.1 What does this Federal EIP guidance cover?

This document states the U.S. Environmental Protection Agency's (EPA) policy on ***discretionary economic incentive programs (EIPs)***.[1] EIPs use market-based strategies to encourage people to reduce ***emissions*** of air pollutants in the most efficient manner. This guidance provides the information you need to know to develop a discretionary EIP, submit it to the EPA, and receive approval from the EPA. This guidance pertains to discretionary EIPs that are or will be measures in ***State implementation plans (SIPs)*** and ***Tribal implementation plans (TIPs)***.

This guidance applies to you[2] if your ***State*** or ***Tribe*** wants to establish a discretionary EIP for attaining or maintaining the ***national ambient air quality standards (NAAQS)*** for ***criteria pollutants***. There are two types of EIPs: mandatory and discretionary. A ***mandatory EIP*** is a program that the Clean Air Act (CAA) requires a State to adopt[3]. A discretionary EIP is a program that a State or Tribe elects to adopt. Any government agency with the authority to administer a SIP or TIP may adopt a discretionary EIP.

Pursuant to the EPA's authority under title I of the CAA, the EPA has established NAAQS for the following criteria pollutants:

- ground-level ***ozone (O_3)***,
- ***carbon monoxide (CO)***,

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[1]Throughout this document, you will see certain terms that appear in ***bold, italic font***. This indicates that the term is defined in section 15.1, the Glossary.

[2]For the remainder of this document, "you" refers to a State, tribe, or other entity that is developing an EIP as a SIP proposal, unless otherwise stated explicitly.

[3]You can find the requirements for mandatory EIPs in the Code of Federal Regulations, title 40, part 51, subpart U (59 Federal Register 16690).

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- ***lead (Pb)***[4],
- ***nitrogen dioxide (NO_2)***,
- ***sulfur dioxide (SO_2)***, and
- ***particulate matter (PM)***[5]

Because of the interrelationship between some of these pollutants and regional haze, this guidance will also apply to EIPs that assist States or Tribes with meeting the requirements of EPA's regional haze regulations (64 Federal Register 35714). To the extent that States participate in regional planning processes for purposes of developing regional haze rules, the EPA intends to be involved as a full and active participant in those processes. The EPA will use this guidance during its participation in these planning discussions. If needed, the EPA will supplement this guidance at a later date to more thoroughly reflect the final regional haze regulations.

EIPs may include any anthropogenic ***source*** of air pollution. EIPs may increase the variety of sources participating in the effort to attain the NAAQS for criteria pollutants. EIPs may also encourage traditionally covered sources to develop and implement emission control programs that result in lower emissions than traditional regulatory measures.

You will find here guidance for developing a wide variety of discretionary EIPs that apply to every type of source of criteria pollutant emissions. This guidance will allow you to develop EIPs that best fit your circumstances and at the same time meet the EPA's expectations for EIPs that you may include in a SIP or TIP.

This document provides strategic advice on choosing a program and determining which sources to include in the program. It provides very detailed information on how to satisfy the requirements set by the EPA for using ***emission reductions*** attributable to a discretionary EIP to meet your air quality-related programs such as your ***SIP or SIP-related requirements***. It also discusses the important tasks in program implementation such as tracking and evaluation.

This document supercedes EPA's 1986 ***emission trading policy statement*** (ETPS) (51 Federal Register 43813), ***EPA's 1994 EIP rule*** with respect to discretionary EIPs (59 Federal Register 16690), and EPA's 1995 ***open market trading rule proposal*** (60 Federal Register 39668). While that proposed rule was never made final, this document addresses the public comments received for that proposal, and provides guidance on other types of EIPs as well.

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[4]While lead is a criteria pollutant, EIPs should not be developed to address lead emissions.

[5]This guidance does not currently cover EIPs that address $PM_{2.5}$ emissions. Per the July 16, 1997 Presidential Directive (62 Federal Register 38421, July 18, 1997), the national ambient air quality standards for $PM_{2.5}$ will not be implemented before completion of the next periodic review in 2002. The EPA will supplement this guidance later when implementation strategies for $PM_{2.5}$ are developed.

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Because this is a guidance document, it does not represent the EPA's final action for your discretionary EIP. Final action occurs when the EPA has approved or disapproved the discretionary EIP you submit as a SIP revision.

1.2 Who should follow this guidance?

You should follow this guidance if you are a State, Tribe, or local air quality agency submitting a discretionary EIP as a SIP revision. You should follow this guidance if you are developing an EIP that you intend to include in a SIP as a means of achieving emission reductions to meet your SIP or SIP-related requirements or as a means for providing sources with compliance flexibility for existing SIP requirements.

State, local, and Tribal air quality regulators are the primary audiences for this document. It presumes your familiarity with the CAA and the Federal-State (or Federal-Tribal) implementation plan system for implementing the NAAQS. Readers will find here a complete description of the EPA's expectations for EIPs that regulators develop to reduce criteria pollutants.

Other people may find this guidance useful.

Stakeholders, such as regulated sources of air pollutants, may be interested in the requirements of sources involved in EIPs. Environmental advocacy organizations, educational institutions, other Federal agencies, or private businesses may propose ideas to you, or be involved in the development of an EIP. In addition, ***communities of concern*** should also be involved in the development of an EIP.

Stakeholders may use this document

- to help select the appropriate EIP, or
- to better understand the specific requirements your State must follow, or
- as a basis for suggesting incentive programs as an alternative compliance mechanism.

This guidance does not apply to you if you are required to establish an EIP by the CAA under sections 182(g)(3), 182(g)(5), 182(d)(3), or 187(g). If this is the case, you must develop and submit a mandatory EIP and must use the EPA's 1994 EIP Rule (40 CFR part 51, subpart U). The Agency plans to revise these rules soon to make them more consistent with this updated guidance.

1.3 Why should I develop an EIP?

More and more, States are seeking NAAQS implementation approaches that maximize common sense, flexibility, and cost effectiveness. By developing a discretionary EIP, you may further this purpose by encouraging sources to do the following:

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- Find less expensive ways to reduce their emissions.
- Meet their emission reduction targets earlier than required.
- Go beyond their emission reduction targets.
- Develop new technologies for reducing emissions.
- Develop more accurate means for measuring emissions.
- Minimize the adverse health and environmental effects on communities of concern
- Consider the environmental effects of emissions and the cost to society when making business decisions.

The EPA encourages you to develop and submit discretionary EIPs to increase flexibility, stimulate the use of less costly, innovative emission reduction measures, and provide greater incentives for developing and implementing pollution prevention strategies, possibly with fewer resources. This guidance will help you prepare ***EIP SIP submittals*** for a variety of EIPs. The EPA also encourages you to work closely with your EPA Regional Office for help with submitting EIPs. The following table contains addresses and phone numbers of EPA Regional Air Division Directors available for you to contact for help with submitting EIPs.

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Table 1.1: EPA Regional Air Division Directors	
Deputy Director Office of Ecosystem Protection EPA Region I (WAA) J.F.K. Federal Building Boston, MA 02203-2211 (617) 918-1500	Director Multimedia Planning & Permitting Division EPA Region VI (6T) 1445 Ross Ave. Dallas, TX 75202-2733 (214) 665-7200
Director Environmental Planning & Protection Division EPA Region II 290 Broadway New York, NY 10007-1866 (212) 637-3772	Director Air, RCRA and TSCA Division US EPA, EPA Region VII 726 Minnesota Avenue Kansas City, KS 66101 (913) 551-7020
Director Air Protection Division EPA Region III (3AT00) 1650 Arch Street Philadelphia, PA 19103 (215) 814-2100	Director Air and Radiation Program EPA Region VIII (8P-AR) 999 18th Street, 1 Denver Place-S500 Denver, CO 80202-2466 (303) 312-6005
Director Air, Pesticides, and Toxics Management Division EPA Region IV 100 Alabama St., SW Atlanta, GA 30303 (404) 562-9077	Director Air Division EPA Region IX (Air-1) 75 Hawthorne Street San Francisco, CA 94105 (415) 744-1219
Director Air and Radiation Division EPA Region V (5A-18J) 77 W. Jackson Street Chicago, IL 60604 (312) 353-2212	Director Office of Air EPA Region X (AT-081) 1200 Sixth Avenue Seattle, WA 98101 (206) 553-2963

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1.4 What are the goals of this guidance?

The goals of this guidance are as follows:

- Define economic incentive programs.
- Help you select the type of EIP that is best for you.
- Help you understand the process for getting your EIP rule approved as part of your SIP.
- Tell you what you need to know to develop your EIP rule and SIP submittal.
- Tell you what provisions your EIP rule must contain.
- Tell you what materials your EIP SIP submittal must contain.
- Provide you with the information you need to implement your approved EIP.
- Tell you what you need to know to evaluate and update your approved EIP.
- Describe the other information you may need, including other guidance that might apply to you.

This guidance provides information at two levels, a program-level and a source-level. Program-level guidance applies to your EIP as a whole. You are primarily responsible for implementing these provisions. Source-level guidance applies to specific sources participating in your EIP. While you are responsible for establishing the appropriate requirements for sources in your rule, the sources themselves are responsible for implementing these other provisions. Program-level and source-level guidance will apply to the majority of EIPs, but there are some exceptions where source-level guidance is not applicable.

The EPA intends this guidance to be a "living document," and plans to update the guidance periodically as the EPA establishes new policies and standards.

1.5 How does this guidance affect the EPA's 1994 EIP rule?

The EPA's 1994 EIP rule established requirements for mandatory EIPs, and guidance for discretionary EIPs. This rule still remains in effect for mandatory EIPs. This document updates the guidance the EPA's 1994 EIP rule provides for developing discretionary EIPs. The EPA will remove section 51.490(b) of the EPA's 1994 EIP rule when the final version of this guidance is published.

The EPA intends for this document to be the primary guidance you use as you develop your EIP. Through this revision, the EPA intends for this EIP guidance to achieve the following:

- C Update the existing guidance using a new plain language format.
- C Tie together, for reference purposes, all of the existing related guidance in one document.
- C Provide additional information on issues not discussed in previously existing guidance.

Therefore, this guidance will take precedence over the discretionary EIP guidance provided in prior documents such as the 1994 EIP (published at 59 Federal Register 16690) and the guidance in the emission trading policy statement (ETPS) (published on December 4, 1986 at 51 Federal Register

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43813). In addition, this guidance represents the EPA's final action on the Open-Market Trading Rule (OMTR) (proposed in August 3, 1995 at 60 Federal Register 39668, and on August 25, 1995 at 60 Federal Register 44290). These previously published documents may provide you with supplementary information and useful background when designing your EIP.

1.6 How does this guidance apply to existing EIPs?

If the EPA either approved your EIP or proposed its approval before the publication of this guidance, it does not need to meet this guidance - unless you submit a modification to that EIP for SIP approval. A modification is any change to the SIP submittal used in the original SIP approval such as:

- additions and changes to regulatory provisions of the EIP
- addition and changes to supporting documentation
- changes to reflect new legislative directives
- changes made in other sections of the SIP, such as definitions and penalty provisions included in the original SIP submittal to receive EPA approval.

From now on, EPA will only approve EIPs that are in substantial agreement with this guidance. We recognize you may have spent considerable effort to develop your EIP. However, since this EIP guidance was not complete at the time, you may not have included all the requirements contained in this guidance. If you have submitted an EIP to EPA ,but it has not been approved yet, you must:

- Consult with your Regional office to determine if any changes are needed for approval.
- Revise your EIP SIP to make the required changes before resubmitting it to EPA.

1.7 What programs are not covered by this guidance?

As mentioned before in section 1.1, mandatory EIPs are not covered by this guidance. In addition, some incentive-based programs have their own separate specific rules and guidance. This guidance does not apply to certain programs because they were:

- developed by the EPA as part of other guidance for CAA requirements that have undergone their own notice and comment rule making, or
- developed for other programs that are all-inclusive.

Most of these rules are Federal programs, are not required to be incorporated in SIPs, and therefore cannot be met by a SIP program. The rules and guidance established for these programs:

- C are not to be used as guidance for EIPs,
- C are not superseded by this or any other Federal EIP guidance unless explicitly stated otherwise, and

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- may not be superseded by any State EIP program except as explicitly allowed for in this guidance.

However, if a source reduces emissions below what is required by these programs, these extra emission reductions may participate in trading EIPs if the emissions reductions are surplus and meet all other requirements of your EIP.

These programs are as follows:

- Any of the CAA ***title IV*** programs for NO_X and SO_2 reductions.
- Permitting requirements under CAA **title V** (parts 70 and 71)
- Toxics emission averaging under ***national emission standards for hazardous air pollutants (NESHAP)*** rules in 40 CFR part 63.
- Federally mandated ***clean fuel fleet programs***.
- Trading provisions that implement controls based on ***control technique guidelines (s)***.
- Averaging, banking and trading (ABT) programs created as part of specific ***mobile source*** rules, including:
  - -- Federal rules for heavy duty diesel highway engines.
  - -- Federal rules for heavy duty gasoline highway engines.
  - -- Federal rules for non-road compression ignition engines.
  - -- Federal rules for locomotives.
  - -- Federal rules for spark ignition marine engines.
  - -- The voluntary national low emission vehicle (NLEV) program.
  - -- Averaging and trading provisions of the Federal reformulated gasoline (RFG) rules.
  - -- Averaging provisions under the anti-dumping provisions for conventional gasoline in the RFG rules.
  - -- Averaging provisions of State oxygenated fuel programs as developed under the EPA's Oxygenated Gasoline Implementation Guidelines (Field Operations and Support Division, EPA Office of Mobile Sources (OMS), July 27, 1992).
- Federal rules for Tier II motor vehicle standards and gasoline sulfur control (proposed May 13, 1999 at 64 Federal Register 26053; final rule signed December 20, 2000, with publication the Federal Register expected January 18, 2001).
- Phase II rule for small non-hand held equipment engines (Class I and II engines, 25 horsepower and less; see 64 Federal Register 15207, March 30, 1999).
- Emission reductions created as the result of a consent decree.
- Any future rule makings.

In addition, this EIP guidance does not supersede the established requirements of the ***new source Review*** (NSR) program. The CAA and the EPA's rules and guidance describe the kinds of emissions reductions that may be used for ***NSR offsets*** and ***NSR netting*** in a number of ways that are different from the requirements for generating and using EIP emissions reductions that are set forth in this guidance. The NSR requirements continue, and they may not be lifted by the State's adoption of an EIP or by the approval of that EIP into a SIP.

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Under some circumstances, however, emissions reductions generated from EIPs may qualify for use as offsets or for netting under the NSR program. Depending on the State's EIP requirements, sources needing NSR offsets may obtain them through the traditional method or through an EIP. Should a State wish to allow sources to meet their offset or netting requirements with EIP emission reductions, such sources may only use those reductions which independently meet:

- the relevant NSR requirements in the CAA,
- the EPA's NSR regulations and guidance, and
- the requirements of this EIP guidance, except where this guidance specifies otherwise.

In other words, you must follow the approaches discussed in this guidance, except where this guidance explicitly identifies when NSR requirements are different from and must govern the use of emission reduction credits that are generated through an EIP for offset or netting purposes. This topic is discussed further in section 6.3(d) and other sections of this guidance.

State NO_X economic incentive programs submitted to comply with the NO_X SIP call regulation published in the Federal Register on October 27, 1998 must comply with the provisions of 40 CFR part 51. For the purposes of SIP review and approval, the EPA considers State NO_X cap-and-trade programs that meet the requirements for the NO_X budget trading program outlined in the final SIP call, 40 CFR part 96 to satisfy the requirements of this guidance because 40 CFR part 96 went through separate EPA notice and comment rule making. However, if the EIP you submitted in response to the NO_X SIP call did not meet the requirements of the NO_X Budget Trading Program (but does comply with 40 CFR part 51), you must ensure your EIP complies with this guidance. Federal EIPs meeting the requirements of 40 CFR part 97 satisfy the requirements of this guidance.

The EPA may develop other national rules in the future which will be separate from the EIP. If you have questions about whether a particular program is separate from the EIP or if you are unsure about which guidance is appropriate for your program, you should contact your EPA Regional Office.

1.8 What is the general process for getting my EIP approved?

The general process for getting your EIP approved consists of the following steps:

- Develop the rule that contains the regulatory provisions of your program *in consultation with appropriate stakeholders* - community (including communities of concern), industry, academia and regulators.
- Prepare documentation to support your rule.
- Submit your EIP rule and supporting documentation to your EPA Regional Office.
- Your EPA Regional Office reviews your EIP SIP submittal for completeness and decides whether your EIP may be approved.

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- If the EPA Regional Office considers your EIP SIP submittal to be incomplete, the EPA Regional Office will return your EIP SIP submittal. At this point, you may revise your EIP and/or documentation and resubmit the package.
- The EPA proposes your EIP as a SIP revision in the Federal Register and takes comments on the rule from the public. Based on the public's comments, the EPA may require that you make changes in your EIP.
- The EPA publishes the final approval of your (original or modified) EIP in the Federal Register.

The EPA's process for rule making also includes an alternative in which the EPA simultaneously publishes a direct final rule and the proposed rule. The EPA can use this alternative process for EIPs, although the EPA expects to use the general rule making process for most EIPs.

You are responsible for implementing all aspects of your EIP as approved by the EPA. Section 13 describes your responsibilities for enforcement, program evaluation, program reconciliation, and inventory maintenance.

1.9 What does the EPA mean when it says this is guidance?

Section 1.1 described the difference between mandatory EIPs and discretionary EIPs. The EPA stated that this guidance applies to discretionary EIPs, but does not represent the EPA's final action regarding discretionary EIPs. Final action occurs when the EPA has approved or disapproved the discretionary EIP you submit as a SIP revision.

Congress did not address specific requirements for EIPs in the CAA. Consistent with our mandate, the EPA has interpreted what an EIP should contain in order to meet the requirements of the CAA. This document is a guidance document that sets forth EPA's non-binding policy for EIPs. This document does not represent final EPA action on the requirements for EIPs. Rather, this document identifies several different types of economic incentive programs, and proposes elements for each type that, if met, EPA currently believes would assure that the program would meet the applicable CAA provisions. The guidance phrases these elements in the imperative - that is, using the terms "must" or "shall". This is done only to signify that EPA would propose to approve a SIP submittal of a program containing the indicated elements on grounds that under section 110(l) of the CAA, the SIP revision does not interfere with any applicable requirement concerning attainment, reasonable further progress, or any other applicable requirement.

Once you submit a SIP revision containing an EIP, EPA will take action through notice-and-comment rule making to determine if the statutory requirements have been met. Only action taken after the conclusion of that rulemaking would constitute final Agency action. The EPA would take steps to expedite its proposed approval in the case of SIP revisions containing programs that contain the elements of this guidance.

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If you submit a program that does not contain the elements of this guidance for that type of program, EPA would still seek to determine whether the applicable CAA requirements were met, and, if so, EPA would approve the submission. The EPA would make this determination through notice-and-comment rule making.

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2.0 Defining an EIP

2.1 What is an EIP?

An EIP is a regulatory program that achieves an air quality objective by providing market-based incentives or information to ***emission sources***. A uniform emission reduction requirement, based for instance on installation of a required emission control technology, does not take account of variations in processes, operations, and control costs across sources even of the same type, such as electric utilities, or petroleum refiners. By providing information or flexibility in how sources meet an emission reduction target, an EIP empowers sources to find the means that are most suitable and most cost-effective for their particular circumstances. In addition, an EIP can create incentives for sources to go beyond an emission reduction target. By setting a price on pollution and pollution reductions through a fee-based approach or a trading program, some sources can realize an economic gain or avoid additional costs by selling excess emission reductions, or making the reductions for less than the cost imposed by a fee. Because of the improved efficiency, EIPs may also lead to achieving air quality goals more quickly.

A State, Tribe, or any jurisdiction responsible for implementing an air quality management plan can develop an EIP. An EIP may be an emission trading program, a ***financial mechanism program***, a program such as a ***clean air investment fund (CAIF)*** that has features of both trading and financial mechanism programs, or a public information program.

You may choose to develop and adopt an EIP for either an ***attainment*** or a ***non-attainment*** area. You must ensure that your EIP does not conflict with or override other CAA requirements that apply to you (e.g., part D non-attainment NSR offset requirements or Part C ***Prevention of Significant Deterioration (PSD)*** notification requirements), regardless of the attainment classification of an area. The submittal of your EIP as a revision to the SIP must also be consistent with section 110 of the CAA and 40 CFR part 51 Appendix V.

The EPA will refer to this guidance document as the Federal EIP guidance. The EPA's 1994 EIP rule (59 Federal Register 16690) has often been referred to as "the EIP," but in this guidance, the EPA will use the term "EIP" to refer to an actual economic incentive program run by you. When the document refers to your "EIP rule," it means the regulatory language adopted by you that describes and implements an EIP. When the document refers to your "EIP SIP submittal," it means the submittal you make to the EPA to obtain approval of an EIP, including your EIP rule and supporting documentation.

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2.2 What pollutants are covered?

The Federal EIP guidance covers five of the six criteria pollutants, and their precursors. Precursors are the emitted substances that influence the concentration of a criteria pollutant. The five criteria pollutants covered are: CO, NO_2, O_3, (and its precursors, ***volatile organic compounds (VOC)*** and NO_X), PM, and SO_2. Ozone precursors include VOCs and NO_X.

2.3 What sources may I include in my EIP?

EIPs may include any anthropogenic source of air pollution, including mobile, ***area***, and ***stationary sources***. The sections in this document that address broad strategic questions of program design will help you choose which sources to include in your EIP. The sections in this document that apply to specific types of EIPs will help you apply your EIP to the sources you select.

2.4 What are the objectives of EIPs?

EIPs can speed up implementation of SIP requirements, and lower the cost of implementing a SIP. In addition, EIPs have three principle objectives in relationship to the SIP. EIPs provide:

- Sources with compliance flexibility to meet existing SIP requirements more cost effectively.
- A means of achieving emission reductions beyond what are currently in the SIP to meet air quality-related program requirements.
- Both compliance flexibility and emission reductions.

This document will use the term ***compliance flexibility EIPs*** to describe EIPs that provide sources with flexibility to comply with existing SIP requirements in ways that are likely to be more cost-effective.. It will use the term ***programmatic reduction EIPs*** to refer to programs that achieve emission reductions beyond what are currently in the SIP to meet SIP or SIP-related requirements.

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3.0 Selecting Your EIP Type

3.1 How do I select the type of EIP that will work best for me?

You should first identify your goals when deciding what type of EIP is best for you. Setting goals will help you determine whether you want to implement a trading program, a financial mechanism, a CAIF, or a public information program. You should clearly define the scope of your EIP in terms of the sources affected by the program. You must achieve an ***environmental benefit*** from your EIP - this concept is discussed in sections 4.3 and 5.1(a). You may also specifically want your new strategy to achieve one or more of the following:

- Provide sources with flexibility when complying with regulations they currently face so they achieve the same emission reductions more cheaply, quickly, and simply.
- Provide an alternative when another requirement becomes too expensive.
- Reduce emissions beyond your current programs.
- Implement strategies to meet the NAAQS.
- Address peak ambient concentrations of pollutants.
- Stimulate the development of new technologies or programs.
- Correct any inequities among communities resulting from the current air quality control plan.
- Reduce disproportionately high adverse health and environmental effects on communities of concern.

Some of the above objectives overlap, and some may actually conflict with each other. Think through these objectives carefully when developing your strategy so you can achieve the desired balance between them.

The information presented in this section reflects the EPA's experience with incentive programs to date. The EPA is interested in developing economic incentive strategies that may make some of the current technologies and methods more economically and technically feasible. For example, it may be more difficult to include many mobile source strategies in a cap-and-trade program because of the difference in the certainty of measurement of emissions from mobile sources compared to other types of sources in the cap-and-trade program. Cap-and-trade programs may be structured around stationary sources with continuous emission monitors. Including sources with less certain measurement techniques or quantification procedures in the program could introduce a higher and undesirable level of uncertainty

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into the overall program. However, new measurement techniques may be developed that make these strategies viable in the future. Therefore, you should fully consider all options before selecting a program.

Generally, an EIP may either achieve emission reductions beyond those already in your SIP, provide compliance flexibility to sources for greater cost effectiveness, or both. The four general types of EIPs are emission trading programs, financial mechanisms, CAIFs, and public information programs. You will notice as you read this document that there is more information and guidance on trading programs than the other programs. This is true for several reasons:

- The EPA and States have more experience with trading programs than with the other types of EIPs.
- Quantifying the results of trading programs may be more complex than other programs.
- There are several types of trading programs, each requiring specific guidance.
- Trading programs can exacerbate inequities among communities more directly than other types of EIPs.

Trading programs are not favored more or less by the EPA than other EIPs, but rather the program you choose should specifically address your goals and the issues in your area.

Table 3.1 summarizes the distinguishing characteristics of each type of EIP. The primary goals listed in the table reflect goals for which these program types were originally developed. However, you can adapt most EIP types to achieve either compliance flexibility or emission reductions - or both. For example, you could use the flexibility of emissions averaging to allow you to employ a stricter emission standard. The EPA strongly encourages you to design your program to meet your specific goals.

Table 3.1: Characteristics of EIPs

EIP Type	General Description
Emission Averaging Programs Primary Goal: - Compliance flexibility	Emission averaging EIPs provide a source or group of sources (typically stationary sources) flexibility in complying with a rate-based regulatory limit by averaging the rate of pollution it emits with another source. Emission averaging EIPs involve emission units at one facility or, if not at the same facility, within the same State. Emission averaging enables a source emitting above its allowable emission rate limit to comply with that rate limit by averaging its emissions with a second source emitting below that second source's regulatory rate limit.
Source Specific Emission Caps Primary Goal: - Compliance flexibility	A source-specific emissions cap allows a specified stationary source or a limited group of sources that are subject to a rate-based emission limit to meet that requirement by accepting a mass-based emission limit, or cap, rather than complying directly with a rate-based limit.

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Table 3.1: Characteristics of EIPs	
EIP Type	**General Description**
Multi-source Emission Cap-and-Trade EIPs Primary Goals: C Compliance flexibility C Emission reductions	A multi-source emission cap-and-trade EIP limits the total emissions from a certain category or group of sources to a level needed for an area to attain or maintain a NAAQS, or comply with the NO_X SIP call regulation - and allows sources flexibility in complying with their emission limits.
Open Market Trading (OMT) EIPs Primary Goal: C Compliance flexibility	OMT EIPs allow sources to use emission reductions created through discrete actions taken in the past to meet current or future emission reduction requirements.
Financial Mechanism EIPs Primary Goal: C Emission reductions	Financial mechanism EIPs include fees, taxes, or subsidies targeted at promoting pollution reducing activities or products. Examples include a fee on emissions, a subsidy for purchase of zero-emitting vehicles, and transportation pricing. Time-saving mechanisms, such as a high-occupancy vehicle lane for car pools, are also in this category.
Clean Air Investment Funds Primary Goal: C Compliance flexibility	A CAIF is a mechanism to provide a way to lower costs for sources facing high control costs and promote investment in technology innovation to improve long term air quality. A CAIF program has elements of both trading and financial mechanism EIPs. In a CAIF, sources participate by paying a designated fee in lieu of making on-site emission reductions, and the fund's manager acquires emission reductions elsewhere.
Public Information EIPs Primary Goal: C Emission reductions C Increased public awareness	Public information EIPs provide information such as product certifications, product labels, or other information that people may consider when making a decision that has air quality consequences. The EPA encourages the use of public information programs because they increase public awareness of environmental issues. Examples include labeling consumer products like paints, with information on their VOC content, and public information campaigns aimed at getting people to reduce emission producing activities.

As emphasized in section 1.9 of this guidance document, this document proposes requirements for EIPs. The EPA currently believes following these requirements (which are phrased in the imperative - using the terms "must" or "shall") would assure that the program would meet the applicable CAA provisions.

If you submit a SIP revision containing an EIP that includes the elements of this guidance, EPA would take steps to expedite its approval through notice-and-comment rulemaking. On the other hand, if you submit a program that does not contain the elements of this guidance, EPA would determine whether your program meets the applicable CAA requirements nevertheless, and, if so, EPA would approve the submission. The EPA would make this determination through notice-and-comment rule making. The

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EPA's ability to expedite this rulemaking would likely depend on the extent that your program departed from this guidance.

3.1(a) Determining your strategy

The questions below are provided to help you consider key issues in determining the EIP best suited for your area and your particular circumstances. The EPA has added tips for some of the questions to further help you in selecting an EIP.

While these guidelines reflect the EPA's experience with incentive programs to date, you have the flexibility to determine the program most appropriate for your situation. The questions and the tips have been provided only as a guideline, and they should not limit you to using a particular program. You may not need to consider every question provided, or, conversely, there may be additional questions that you need to answer as you design your program. In addition, the EPA's tips may not apply in every case. You may determine that it is more appropriate to do something different.

What program will work best for the pollutant in which I am interested?

Some pollutants may be better suited for either a trading EIP, or a financial mechanism EIP, depending on how easily you can identify the sources or quantify the level of pollution. If you can measure emissions relatively accurately, and the impacts of the pollutant from one source are similar to the impacts from another source, a trading program may work. If difficulty arises in measuring the level of the pollutants emitted from the sources, or if directly controlling those sources is difficult, then a financial mechanism or public information program may be more suitable.

Tips from the EPA

For VOCs, any EIP may be appropriate, but you must include the provisions listed in section 5.1(b), 6.2(b), and 16.2 concerning localized impacts of hazardous air pollutants.

What program will work best for sources emitting pollutants in which I am interested?

Are the emissions in your area coming more from stationary sources or mobile and area sources? If stationary sources are causing the most emissions, are the facilities located close to each other (in an industrial zone) or spread across the area?

If you are designing an EIP to address primarily emissions from motor vehicles, you may want to design your program differently from how you would when addressing emissions from power plants, for example.

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Tips from the EPA

If you are interested only in controlling emissions from large, stationary sources, a trading EIP or a financial mechanism may work well for you. In particular, a multi-source cap-and-trade EIP may work well here.

If you are interested in commercially owned fleets of vehicles or other mobile sources, you may consider incorporating emission reduction strategies from these sources into a trading program, as well as financial mechanisms, public information programs, etc.

If you are interested in individually owned mobile sources, you may consider financial mechanisms, such as transportation pricing or subsidies, or public information programs to increase awareness of the environmental benefit provided by use of public transportation or car pooling. You will want to consider the easiest way to control the pollution. For example, do you want to target vehicles or gasoline stations?

If you can measure the level of pollution from sources with relative accuracy, and the impacts of the pollutant from one source are similar to the impacts from another source, a trading program may work. These programs may also reduce emissions most efficiently in cases where the benefits of emission reductions are more sensitive to emission changes than the costs of those reductions.

In addition to matching an EIP type to your specific circumstances, keep in mind that one intent of EIPs is to provide incentives that encourage sources to seek less-costly ways to reduce emissions, or to reduce emissions beyond requirements, or both. For trading programs, for example, a general rule of thumb is that the greater the number of sources participating in the market, and the simpler the rules, the lower the total costs will be for all participating sources. However, other goals and special concerns, such as equity and disproportionate localized impacts, additional environmental benefit, and enforcement certainty may force you to trade off some of the cost-effectiveness you are trying to achieve.

How could existing air quality programs cause disproportionately high and adverse effects on communities of concern?

Does your EIP cover VOC emissions that include HAPs? Are VOC more concentrated in a community than in the rest of your potential trading area? Could implementation of an EIP that provides more flexibility than most other programs make relative air quality worse in these communities of concern by increasing or avoiding decreases of toxic emissions?

Tips from the EPA

With respect to potential ***environmental justice*** concerns, you should conduct a screening analysis for the local area that addresses the following questions:

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- Does the community of concern include minority populations, low-income populations, and/or Tribes?
- Are the impacts likely to fall disproportionately on minority populations, low-income populations, and/or Tribes?

The second question may be harder to answer than the first, in part, because the impacts include environmental and socioeconomic effects that may be unique to the local area. Therefore, your screening analysis should include:

- an examination of the local public health and safety issues associated with the ***emission shifts***; and
- an analysis to predict the community's particular socioeconomic indicators such as:
  -- employment
  -- income levels,
  -- housing quality, and
  -- dependence on public transportation associated with the EIP (for example, you may want to consider what provisions you could add to a transportation incentive EIP to ensure that lower income individual's access to transportation will not be a concern).

If you wish to adopt a trading program covering VOC emissions in an area with communities of concern, you should include provisions to ensure that:

- The VOC emissions do not shift disproportionately into communities of concern, and
- Trading does not diminish the benefits that communities of concern already overburdened with toxic exposures would have enjoyed.

Similar restrictions should also be included in other EIPs (e.g., emission fee and CAIF programs) if there is a chance that communities of concern may bear a disproportionate amount of the VOC emissions after the EIP is implemented. These issues are discussed in more detail in sections 4.2 and 16.2.

If your EIP will impact Indian country, these tips also apply. However, since Tribes have sovereignty over Indian country, you will need to work with the affected Tribal governments on a government-to-government basis. You may wish to consult section 11.2, "What must I submit for approval if my trading program involves more than my State?" if you need to include Tribes in your trading program.

How will the geography of my area affect my selection of a program?

The geographic characteristics of your area may influence your decision on the most effective EIP for your area. For example, a trading program will work better when the emissions impacts from the sources are similar. If the geography of your area is such that pollutants are transported over a large area, you may find that emissions from a large number of sources throughout the area contribute to the problem relatively equally. In this case a trading program may address the problem effectively.

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However, the terrain or elevation of an area may influence the transport of emissions, and how similar the impacts of emissions from different sources are. For example, in an area with a meteorological inversion where the pollution concentrates in a smaller area, some sources will have a greater impact on the problem than others. With a smaller number of sources where location of the source plays a great role in the contribution of the pollutants, consider a program that can address those sources specifically.

How accurately do I have to quantify emissions?

Emissions should be monitored and quantified according to other rules and guidance promulgated by EPA. There is no requirement for more complex or costly quantification techniques.

However, some EIPs will require more accurate quantification than others, both in terms of emissions and emission reductions, due to the nature of the program. For example, to run a trading EIP, you need to know the level of emissions from each source, as well as the environmental benefits due to an emission reduction strategy. The same will hold true for a fee program where a fee is based directly on the level of pollution. Other programs (e.g., public information EIPs) may require only an estimate of the aggregate change in pollution levels from all of the participating sources.

The desired goal is for all source categories included in an economic incentive program to have relatively equal levels of certainty when compared to one another. Including sources with vastly different levels of certainty may result in an overall level of uncertainty that compromises the desired environmental benefits of the program. How close the levels of uncertainty should be will depend on the specific nature of the program. These concerns about relative uncertainty of emissions for included sources are most notable in trading programs, and particularly cap-and-trade programs.

The EPA encourages program designs that inherently encourage higher levels of certainty in the measurement of emission rates and quantification of aggregate emission levels. In designing a program, you should consider the most effective and certain strategies that can achieve the desired environmental benefit.

Tips from the EPA

Trading EIPs and fee EIPs where a fee is levied on actual emissions will generally require more accurate quantification of the emission reductions than other programs. For a cap-and-trade program, in particular, you should consider using the best available quantification and testing methodologies for measuring emissions for the participating sources. Further, other issues (e.g., program integrity, emissions monitoring, and accountability) must be adequately addressed to include more diverse source categories in a cap-and-trade program.

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How will I enforce my program?

Most EIPs require source-specific enforcement. You should consider how you will enforce the EIP, and determine whether you have the necessary accounting mechanisms and the resources available. You may also find that while some enforcement provisions are suitable for stationary or area sources, they may not be applicable to mobile sources.

To ensure continuous compliance from stationary sources participating in your EIP, your EIPs compliance requirements must also include the following provisions.

- Where applicable, enhanced monitoring, as required by section 114 of the CAA.
- A required minimum amount of time that monitors must be functional.
- A requirement to record the readings from the monitor or monitoring system.
- A requirement to maintain these records for at least 5 years.

You must show you have adequate resources to review the monitoring data to determine compliance and to enforce against violations based directly on the monitoring data and on any other credible evidence of violations.

If your EIP has an impact in Indian country, you should consider that Tribes have their own sovereign authority, including enforcement. You may need to address this through an MOU, as discussed in section 11.2.

How does my program affect stakeholders?

When considering an EIP, you should identify the stakeholders potentially affected by the EIP, and compare the EIP's potential impacts on your stakeholders to both the current regulatory situation and the potential impacts of any alternative regulatory programs considered. This comparison is important to ensure that all appropriate stakeholders are included in the process, and that any potential effects of the program are appropriately addressed.

You will need to know how many sources will be affected, or participate, and the technical abilities of the sources. For example, small businesses may not have engineering or legal departments. You will want to know what action or investment in emission reductions the sources have taken in the past, or whether some sources or individuals have higher emissions than similar sources or individuals.

If your EIP will generate revenue, consider how you will use the funds. For a multi-source cap-and-trade EIP, how will you distribute the emission ***allowances***?

What resources do I need to create, implement, enforce, and maintain an EIP?

You will want to determine the resources required for a particular EIP and determine if the government and program participants have the needed resources. As part of this process, you should:

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- Consider the costs of running or participating in a program, and the administration, staffing, and infrastructure needed to collect, receive and/or process information, including audits and inspection.
- Determine whether you and the program participants can make the financial and resource commitment necessary.
- Determine whether you have the necessary legal authority to develop, implement, and enforce the EIP.

Have I considered everything?

The above list of questions is not intended to be a complete list to use as you develop your EIP. You may discover some other questions that you will want to answer as well. For example, you should also consider whether your EIP may affect air quality-related values in your area. As previously stated, questions and answers are based on experience with these programs to date. Since methods or technologies may be developed that will allow for a broader use of programs, you should consider any such developments. You should also consult your EPA Regional Office. Table 1.1 lists addresses for the appropriate Regional Office contacts.

3.1(b) Attributes that make EIPs successful

The following is based on discussions held by the Economic Analysis Group of the National and Regional Strategies Work Group - part of the Federal Advisory Committee on Ozone, Particulate Matter, and Regional Haze Implementation.

The attributes listed below are generally essential to the success of your EIP. These attributes do not represent the required program elements that will be used in the EPA review of your EIP. Rather, they may assist you in determining the program best suited to your needs.

If you believe an emission trading program is the program best suited to meet your needs, see sections 6.0 and 7.0 for more information. See sections 8.0, 9.0, and 10.0 for more information on financial mechanism EIPs, CAIFs, and public information EIPs respectively.

Attributes That Make Emission Averaging EIPs and Open Market Trading EIPs Successful

- Comparing potential trading partners, the differences in emission control cost differentials exceed the transaction costs of making a trade.
- A cap on the total emissions from participating sources is not crucial for achieving air quality objectives.
- A well-defined ***baseline*** level of emissions (emissions prior to implementing the program) can be calculated.
- Methods for quantifying emissions are generally accepted as unbiased and trustworthy, and the relatively low level of uncertainty is quantified and accepted.
- Emission sources can readily and accurately collect the data necessary to calculate emissions.

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- Spikes in emission levels (short-lived peaks) or localized increases in emissions are managed so they do not lead to unacceptable degradation in air quality.
- Disproportionately high and adverse effects on communities of concern (if any) can be mitigated by the EIP.
- Economic efficiency issues do not overwhelm equity issues among communities.
- Adequate penalty provisions can be implemented.
- The regulatory agency has sufficient resources to administer and enforce a program.

See section 7.2 for more information on emission averaging EIPs and section 7.5 for OMT EIPs.

Attributes That Make Source-Specific Emissions Caps and Multi-source Emission Cap-and-Trade EIPs Successful

- The set of included sources is well-defined.
- Methods for quantifying emissions are generally accepted as unbiased and trustworthy, and the relatively low level of uncertainty is quantified and accepted.
- Emission sources can feasibly and accurately collect the data used to calculate emissions.
- There is little potential for emissions to shift from included sources to excluded sources.
- Spikes in emission levels (short-lived peaks) or localized increases in emissions would not result in unacceptable air quality.
- Disproportionately high and adverse effects on communities of concern (if any) can be mitigated by the EIP.
- Economic efficiency issues do not overwhelm equity issues among communities.
- Adequate penalty provisions can be implemented.
- The regulatory agency has sufficient resources to administer and enforce a program.
- Included sources are a major portion of the air quality problem, although the sources do not necessarily need to be the largest sources (multi-source cap-and-trade EIPs only).
- Given the purpose of the emission trading program, the total ***emission budget*** is set at a level consistent with the environmental goal (multi-source cap-and-trade EIPs only).
- Appropriate data are available to allocate budget shares and determine the impact of the EIP on the inventory (multi-source cap-and-trade EIPs only).

See section 7.3 for more information on source-specific emission cap EIPs and section 7.4 for multi-source emission cap-and-trade EIPs.

Attributes That Make Emission Fee Financial Mechanism EIPs Successful

- The relevant governmental body possesses legal authority to levy emission fees.
- Fees are levied on emissions or on an activity or commodity that is reasonably related to ***actual emissions*** or potential emissions.
- The fees are reasonable, but significant enough to motivate emission reductions.
- Methods for quantifying emissions or the activity on which the fee is based are generally accepted as unbiased and trustworthy, and the relatively low level of uncertainty is quantified and accepted.

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- The potential for a substantial difference between expected and actual emission reductions is acceptable.
- Increase in emissions over time from included sources is acceptable.
- The regulatory agency can adjust fees within a reasonable period of time if the fees are initially set too low or too high.
- The planned use of fee revenue is authorized by the relevant governmental body.
- The planned use of fee revenue is generally accepted by stakeholders.
- Any rebate mechanism does not dilute the incentive.
- Disproportionately high and adverse effects on communities of concern (if any) can be mitigated by the EIP.
- Adequate penalty provisions can be implemented.
- The regulatory agency has sufficient resources to administer and enforce a program.
- Transportation pricing mechanisms are developed to ensure that lower income people's access to transportation is not a concern.

Attributes That Make Subsidy Financial Mechanism EIPs Successful

- The relevant governmental body possesses legal authority to provide subsidies.
- Subsidies on activities reasonably related to actual emissions or potential emissions.
- Where projected emission reductions are based on changes in behavior, methods for verifying that such reductions have taken place to the degree projected are generally accepted as unbiased and trustworthy, and the relatively low level of uncertainty is quantified and accepted.
- The potential for a substantial difference between expected and actual emission reductions is acceptable.
- The regulatory agency can adjust subsidies within a reasonable period of time if the subsidies are initially set too low or too high.
- If needed, adequate penalty provisions are in place to ensure that the subsidy is used as expected.
- Disproportionately high and adverse effects on communities of concern (if any) can be mitigated by the EIP.
- The regulatory agency has sufficient resources to administer and enforce a program.
- The regulatory agency has a sufficient, long-term funding mechanism to administer the program over the period which the emission reductions are valid.
- Transportation pricing mechanisms are developed to ensure that lower income people's access to transportation is not a concern.

See section 8.0 for additional information on financial mechanism EIPs.

Attributes that make CAIFs successful

- The relevant governmental body possesses legal authority to collect payments into the fund.
- The source faces a lower compliance cost by paying a set annual amount per ton into the CAIF in lieu of installing control equipment.
- Sources can calculate a well-defined baseline level of emissions.

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- Methods for measuring emission reductions handled by the CAIF are generally accepted as unbiased and trustworthy, and the relatively low level of uncertainty is quantified and accepted.
- The cost-per-ton threshold is reasonable, but significant enough to motivate the source to achieve most of their required emission reductions.
- The regulatory agency can adjust the cost-per-ton threshold within a reasonable period of time if the costs per ton are initially set too low or too high.
- The planned use of the fund's revenue is authorized by the relevant governmental body.
- The planned use of the fund's revenue is generally accepted by stakeholders.
- Disproportionate effects in communities of concern (if any) can be mitigated by the EIP.
- Adequate penalty provisions can be implemented.
- Spikes in emission levels (short-lived peaks) or localized increases in emissions would not lead to unacceptable degradation in air quality.
- The regulatory agency has sufficient resources to administer and enforce a program.
- Emission sources can readily and accurately collect the data necessary to calculate emissions.

See section 9.0 for additional information on CAIF EIPs.

Attributes That Make Public Information EIPs Successful

- The targeted public has the ability to reduce emissions.
- The targeted public understands the intent of information provided.
- The information provided specifically identifies desired behavior.
- The information provided motivates behavioral change.
- The information is provided early enough for the public to have the time necessary to change their behavior.
- Disproportionate effects in communities of concern (if any) can be mitigated by the EIP.
- The information is provided frequently enough, through enough media, and in sufficient variety, to reach target audiences and continually get their attention.
- Where target populations are culturally diverse, the information is tailored to each cultural group.
- The regulatory agency collects data (before, during, and after implementation) that allow comparison of emissions with and without the program.
- The regulatory agency has sufficient resources to administer and enforce a program.

See section 10.0 for additional information on public information EIPs.

3.2 Whom should I involve in selecting and developing my EIP?

EIPs may require the cooperation of various public and private sector entities. An EIP is much more likely to succeed if the affected parties are involved early on in the process. For example, regulated industries may have more interest in an EIP if they feel that their particular circumstances and ability to comply are accounted for. Environmental groups and communities of concern will be more comfortable with an EIP if their concerns are addressed up front.

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Some successful EIPs have involved groups other than those who immediately come to mind. Councils of Government, Chambers of Commerce, neighborhood organizations in communities of concern and academic institutions (particularly economists) have played important roles in developing some EIPs.

For transportation EIPs, you should consider involving any agencies that will play a role in the implementation of the program. For example, a transportation pricing program will likely be implemented by a ***metropolitan planning organization (MPO)***, a State Department of Transportation, or a local transportation authority. Your State legislature may have the authority to establish these programs. For these EIPs to function properly, you should involve the appropriate parties in the program's selection and development. Their exact roles will depend on the specifics of your EIP.

In general, when developing an EIP, consider involving the following:

- Your EPA Regional Office.
- Representatives from emission sources or individuals to be included in the program.
- Representatives of local government, and all relevant government jurisdictions (including representatives of Tribes).
- Representatives from environmental organizations.
- Members of the community, particularly those representing communities of concern.
- Organizations or sources with specialized knowledge or perspectives (e.g., academic institutions, Chamber of Commerce).
- An economist.

3.3 How do I apply this guidance to a particular type of EIP?

This section is designed to help you determine which sections of the guidance are relevant to you if you are implementing an EIP. While sections of this guidance apply to all types of EIPs, several other sections are applicable only to specific types of EIPs. The following table will help you decide which sections you should read.

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Table 3.2: Which Sections of this Guidance Should I Read?

If you are implementing...	Then you should read the following general sections...
Any type of EIP	1.0-5.0 &11.0-13.0
If you are implementing a/an...	**Then you should also read the following sections...**
Emission Averaging EIP	6.0 & 7.2
Source-specific Emission Cap EIP	6.0 & 7.3
Multi-source Emission Cap-and-trade EIP	6.0 & 7.4
Open Market Trading EIP	6.0 &7.5
Financial Mechanism EIP	8.0
Clean Air Investment Fund EIP	9.0
Public Information EIP	10.0

Section 14.0 contains information on guidance that applies to mobile sources that you may use instead of this guidance. Section 15.0 contains the glossary and a list of acronyms. Section 16.0 is where you will find the appendices to this guidance. These appendices include several documents that are closely related to this guidance document and that you are likely to use as you develop your EIP.

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ELEMENTS OF ALL EIPS

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4.0 Fundamental Principles of All EIPs

There are three fundamental principles that apply to all EIPs. These fundamental principles are

- integrity
- equity, and
- environmental benefit.

While other elements of EIPs (e.g., cost-effectiveness, efficiency, flexibility) are compelling reasons to adopt an EIP, the EPA views these fundamental principles as essential to the success of your EIP. While the types of EIP and the design elements used for a given situation may vary, these fundamental principles must serve as the foundation of your program. When you make decisions regarding the design or overall objectives of your program, you must keep integrity, equity, and environmental benefit in mind. They form the lenses through which all aspects of an EIP must be viewed.

These fundamental principles can apply to your EIP in its entirety (programmatic principles) and to sources participating in your EIP (source-specific principles). In either case, program requirements you include in your EIP to satisfy these fundamental principles may restrict the number of sources that can participate, or add additional rules and requirements that participating sources must meet, thus reducing the overall cost-effectiveness of your EIP. You should carefully assess the tradeoffs you are making between cost-effectiveness and the integrity, equity, and environmental benefit principles to ensure they are acceptable to you and your stakeholders.

Sections 4.1 describes integrity, section 4.2 describes equity and section 4.3 describes environmental benefit.

As emphasized in section 1.9 of this guidance document, this document proposes key elements for EIPs. The EPA currently believes that a program containing these elements (which are phrased in the imperative - using the terms “must” or “shall”) would assure that the program would meet the applicable CAA provisions.

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Once you submit a SIP revision containing an EIP, EPA will take action through notice-and-comment rule making to determine if the statutory requirements have been met. Only action taken after the conclusion of that rulemaking would constitute final Agency action. The EPA would take steps to expedite its proposed approval in the case of SIP revisions containing programs that contain the elements of this guidance.

If you submit a program that does not contain the elements of this guidance for that type of program, EPA would still seek to determine whether the applicable CAA requirements were met, and, if so, EPA would approve the submission. The EPA would make this determination through notice-and-comment rule making.

4.1 How must my EIP meet the integrity principle?

There are four elements that make up integrity. These elements can apply to all EIPs. The elements are:

- ***surplus***,
- ***quantifiable***,
- ***enforceable***, and
- ***permanent***.

These elements can apply to both the programmatic and source-specific requirements, regardless of the objectives of your EIP. Whether your EIP is a compliance flexibility EIP, a programmatic reduction EIP, or both, you must demonstrate that it has integrity for the overall program, and the participating sources.

At the programmatic level, your EIP must reflect the integrity elements applicable to the program's overall regulatory requirements. By addressing the programmatic integrity elements you ensure that your EIP will accomplish its overall objectives. You are also responsible for adopting a rule that adheres to the applicable elements at the source-specific level. Doing so ensures EIP-related actions taken by individual sources meet your EIPs goals.

Because the programmatic and source-specific requirements of EIPs are different, the elements do not apply to the two program levels in the same manner. In addition, depending on the nature of the EIP or the type of sources participating in the EIP, certain elements may only apply partially, if at all.

Some EIPs may be a combination of several EIP types. For example, an EIP may generate emission reductions in a manner consistent with one type of EIP and then use them according to another. If your particular EIP combines components of different EIPs, then, to the extent necessary, you need to follow the integrity elements that apply to each component of your program. In such cases you should work with your EPA Regional Office to determine the proper integrity elements that apply to your program.

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On the other hand, some types of EIPs may not be combined because their characteristics and requirements, as described elsewhere in this guidance, are not compatible. For example, an OMT EIP may not be combined with either a source-specific emission cap EIP or a multi-source emission cap-and-trade EIP. To do so would violate the procedures for establishing emission caps and thus compromise the integrity of those caps.

4.1(a) Programmatic integrity elements

These elements establish the criteria used to evaluate whether a source is in compliance or its emission reductions are valid for use in an EIP included in your SIP.

Integrity ensures the validity of the program overall. The programmatic integrity elements address your responsibilities as you design and implement your EIP. This section presents the general definitions of the programmatic integrity elements at the programmatic level. Where applicable, emissions, emission reductions or other required actions resulting from your EIP must be *surplus, quantifiable, enforceable,* and *permanent* according to the following definitions. In addition to the general programmatic definitions provided below, section 6.3(d) describes additional requirements you must comply with if emissions reductions generated by your EIP are to be used for NSR offsets or netting.

Surplus. Programmatic emission reductions are surplus as long as they are not otherwise relied on in any of the following air quality-related programs:

- Your SIP.
- Your SIP-related requirements such as transportation conformity.
- Other adopted State air quality programs not in your SIP.
- Federal rules that focus on reducing precursors of criteria pollutants such as ***new source performance standards*** (NSPS), rules for reducing VOCs promulgated under section 183 of the CAA, and statutorily mandated mobile source requirements.

In other words, you may not claim programmatic EIP emission reductions that result from any emission reduction or limitation of a criteria pollutant precursor that you require to attain or maintain a NAAQS or satisfy other CAA requirements for criteria pollutants, such as NSR Class I protection. In the event that your EIPs programmatic emission reductions are relied on to meet new air quality-related program requirements listed above, they are no longer surplus for any future EIP you develop. Note that the programmatic surplus element only applies to programmatic reduction EIPs. - the element does not apply to compliance flexibility EIPs.

Furthermore, you may not claim programmatic EIP emission reductions that result from any emission reductions that occur because of compliance with a consent decree.

Enforceable: Emission reductions use, generation, and other required actions are enforceable if:

- They are independently verifiable.

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- Program violations are defined.
- Those liable for violations can be identified.
- You and the EPA maintain the ability to apply penalties and secure appropriate corrective actions where applicable.
- Citizens have access to all the emissions-related information obtained from the source.
- Citizens can file suits against sources for violations[6].
- They are practicably enforceable in accordance with other EPA guidance on practicable enforceability.

Quantifiable: Emissions and emission reductions attributed to your EIP are quantifiable if you can reliably and replicably measure or determine them.

Permanent: For compliance flexibility EIPs, the results of your EIP are permanent if you are able to ensure that no emission increases (compared to emissions if there was no EIP) occur over the time defined in the SIP. For programmatic reduction EIPs, the results of your EIP are permanent if you are able to ensure that the programmatic reductions occur over the duration of your EIP rule, and for as long as they are relied on in your SIP or SIP-related requirements.

Table 4.1(a) summarizes the general definitions of the programmatic integrity elements discussed in section 4.1 (a). Each type of EIP must conform to the general definition of surplus. In addition, EIPs must fulfill different requirements of the definition of surplus specific to each EIP type. Table 4.1(b) compares how the programmatic integrity element of surplus applies to the various types of trading EIPs. Table 4.1(c) compares how the programmatic integrity element of surplus applies to other types of EIPs. Discussions of how the integrity element of surplus specifically applies to each EIP type are also found in later sections of this guidance that pertain to specific types of EIPs.

[6]Note that citizens cannot file suits against Tribes, or sources owned and operated by Tribes. See 40 CFR part 49.4(o).

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Table 4.1(a): Programmatic Integrity Elements	
Integrity Element	**General Definition**
Surplus	Emission reductions used to meet air quality attainment requirements are surplus as long as they are not otherwise relied on in air quality-related programs related to your SIP, SIP-related requirements, other State air quality programs adopted but not in your SIP, a consent decree, or Federal rules that focus on reducing criteria pollutants or their precursors. In the event that your EIPs programmatic emission reductions are relied on to meet air quality-related program requirements, they are no longer surplus.
Enforceable	Emission reductions and other required actions are enforceable if: C They are independently verifiable. C Program violations are defined. C Those liable can be identified (see section 6.1(a)). C You and the EPA maintain the ability to apply penalties and secure appropriate corrective action where applicable. C Citizens have access to all the emissions-related information obtained from the source. C Citizens can file suits against sources for violations (with the exception of those owned and operated by Tribes). C They are practicably enforceable in accordance with other EPA guidance on practicable enforceability.
Quantifiable	Emissions and emission reductions attributed to your EIP are quantifiable if you can reliably and replicably measure or determine them.
Permanent	For compliance flexibility EIPs, the emission reductions are permanent if you are able to ensure that no emission increases (compared to emissions if there was no EIP) occur over the time defined in the SIP. For programmatic reduction EIPs, the emission reductions are permanent if you are able to ensure that these reductions occur over the duration of the EIP rule, and for as long as they are relied on in the SIP.

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Table 4.1(b): Programmatic Integrity Element of Surplus for Trading EIPs			
Emission Averaging	**Source-Specific Emission Cap**	**Multi-Source Emission Cap-and-Trade**	**Open-Market Trading**
If the program is claiming reductions, in addition to the general definition: • you must show that your EIP results in more reductions than would have occurred without the program.	*If the program is claiming reductions, in addition to the general definition:* • you must show that your EIP results in more reductions than would have occurred without the program.	*If the program is claiming reductions, in addition to the general definition:* • you must show that the cap on all emissions is below the threshold that would have been set before the program was implemented.	*The general programmatic integrity element of surplus does not apply to open-market trading (OMT) EIPs, since OMT EIPs do not achieve program-wide emission reductions.*

Table 4.1(c): Programmatic Integrity Element of Surplus for Other EIPs		
Financial Mechanism	**Clean Air Investment Fund**	**Public Information**
If the program is claiming reductions, in addition to the general definition: • you must show that the EIP would result in lower emissions than would have occurred without the program.	*The general programmatic integrity element of surplus does not apply to the CAIF EIPs since they do not result in program-wide emission reductions.*	*If the program is claiming reductions, in addition to the general definition:* • you must show that emission reductions have occurred beyond what would have occurred without the program.

4.1(b) Source-specific integrity elements

The source-specific integrity elements apply to the emissions, emission reductions, and required actions taken by individual sources participating in your EIP. This section generally defines the source-specific integrity elements. Source-specific actions resulting from your EIP must be *surplus, quantifiable, enforceable,* and *permanent* according to the following general definitions. To the extent that sources are taking actions that result in emission reductions, different requirements for the integrity elements apply to sources' actions for each EIP type. These requirements are described in later sections of this guidance that pertain to specific types of EIPs. In addition to the general definitions provided below, section 6.3(d) describes additional requirements you must comply with if emissions reductions generated by your EIP are to be used for NSR offsets or netting.

Surplus. For any criteria pollutant program, source-specific emission reductions are surplus if the reductions are not presently relied upon in your current air quality-related program requirements defined in section 4.1(a) for the time that the reductions occur; or if they are not required as the result of a consent decree.

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Also, source-specific emission reductions of a criteria pollutant resulting from a non-criteria pollutant program are generally surplus if they are not relied upon in your air quality-related program requirements defined in section 4.1(a) for that criteria pollutant with exceptions noted below.

The baseline emissions should not exceed the magnitude of emissions for a particular source that was used as input to the latest modeling attainment demonstration approved by the EPA. This means that emission reductions measured by sources on a prospective basis are surplus if the projected baseline emissions (emissions prior to implementation of the EIP) from the source or group of sources participating in the EIP are accounted for as described below.

- The applicable prospective point source inventory for that source or group of sources reflects projected emissions that include existing air quality-related program requirements defined in section 4.1(a). This means that for each source generating emission reductions, the sum of the actual emissions and the amount claimed as emission reductions must be less than or equal to the amount allocated to that source in the emissions inventory.

- The applicable prospective area source inventory for that source category reflects projected emissions that include existing air quality-related program requirements defined in section 4.1(a). This means that for each source category generating emission reductions, the sum of the actual emissions and the amount claimed as emission reductions must be less than the amount allocated to that source category in the emissions inventory.

- For mobile sources, you must demonstrate that you are using an acceptable baseline which accurately reflects emissions without the implementation of your EIP. You can meet this requirement by using an EPA-approved model or an approved testing program. The same concepts described above also apply to mobile sources, however, please discuss specific applications with your regional office.

Emission reductions measured by sources on a retrospective basis (for instance, discrete emission reductions, or DERs, in OMT EIPs) are surplus if the source reduces its actual emissions below its baseline allowable or ***historical actual*** emissions, whichever is lower. For mobile sources, however, the concept of historical emissions is not appropriate because of the effects of fleet turnover. Fleet average emission factors are always declining. Therefore, the use of historical fleet average emission factors (i.e., emission factors modeled for previous calendar years) as a baseline for emission reductions is not appropriate for mobile sources because this would result in credit being taken for normal fleet turnover. Instead, most mobile source baselines will be based on emissions that would have occurred in the absence of generating emission reductions.

You must also ensure that the program participants provide sufficient information on emission increases and decreases associated with your EIP so that you can revise your retrospective inventories to reflect this information as appropriate. See sections 5.2, 5.3, 7.3 and 7.4 for information about the relationship between EIPs and inventories. Section 12.5 contains additional information about updating your applicable inventory.

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Enforceable: Actions, emission reductions or emission limits as required by the EIP are enforceable if:

- the source is liable for any violations;
- the liable party is identifiable; and
- you, the public, and the EPA can independently verify a source's compliance.

For a fuller understanding of liability, see section 6.1(a), "Provisions for assessing liability."

Quantifiable: The generation or use of emission reductions by a source or group of sources is quantifiable if they can reliably calculate the amount of emissions and/or emission reductions occurring during implementation of the program, and replicate the calculations. Generally, sources may not include ***fugitive emissions*** when quantifying emissions associated with an EIP. When quantifying results, sources must use the same methodology used to measure baseline emissions unless there are good technical reasons why this is not appropriate and you can provide supporting documentation.

Permanent: Emission reductions are permanent if the source commits to actions or achieves reductions for a period of time into the future as defined in the EIP.

Table 4.2(a) summarizes the general definitions of the four source-specific integrity elements discussed here. Each type of EIP must conform to the general definitions of the applicable integrity elements. In addition, certain types of EIPs must fulfill different requirements of the integrity elements definitions specific to each EIP type. Table 4.2(b) compares how these four source-specific integrity elements apply to each EIP type by presenting clarifications and/or additional requirements applicable to each EIP type.

Table 4.2(a): Source-Specific Integrity Elements

Integrity Element	General Definition
Surplus	The creation of emission reductions is surplus if the reductions are not presently relied upon in your current air quality-related programs defined in section 4.1(a) for the time that the reductions occur, and if they are not required by a consent decree. Generally, source-specific emission reductions of a criteria pollutant resulting from a non-criteria pollutant program are surplus if they are not relied upon in your air quality-related program requirements for that criteria pollutant. Emission reductions measured by sources on a prospective basis are surplus if the projected baseline emissions from the source or group of sources are properly accounted for in the applicable inventory (point and area sources) or by using an acceptable baseline (mobile sources). Emission reductions measured by sources on a retrospective basis are surplus if the source's actual emissions are below its baseline allowable or historical actual emissions - whichever is lower - and your retrospective inventories reflect actual emission information as appropriate.

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Table 4.2(a): Source-Specific Integrity Elements	
Integrity Element	**General Definition**
Enforceable	Actions, emission reductions or emission limits required by the EIP are enforceable if the source is liable; the liable party is identifiable; and you, the public, and the EPA can independently verify a source's compliance (see section 6.1(a)).
Quantifiable	The creation and use of emission reductions are quantifiable if the source or group of sources can reliably calculate the amount of emissions and/or emission reductions occurring during implementation of the program, and replicate the calculations; generally, sources cannot include fugitive emissions when quantifying emissions associated with an EIP. When quantifying results, sources must use the same methodology used to measure baseline emissions unless there are good technical reasons of why this is not appropriate and you can provide supporting documentation.
Permanent	Emission reductions are permanent if the source commits to actions or achieves reductions for a future period of time as defined in the EIP.

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Table 4.2(b): Comparison of Source-Specific Integrity Elements for Trading EIPs			
Emission Averaging	**Source-Specific Emission Cap**	**Multi-Source Emission Cap-and-Trade**	**Open-Market Trading**
Surplus			
In addition to the general definition: • the emission reductions are not prospectively relied upon in the SIP or SIP-related requirements; • they must be surplus at the time sources use them for compliance; and • stationary-source shutdowns and production activity curtailments are not eligible as emission reductions.	*In addition to the general definition:* • the reductions are not prospectively relied upon in the SIP or SIP-related requirements; • the reductions are not generated through compliance with any requirement of the CAA; • the reductions resulting from shutdowns and curtailments are surplus only if the shutdown or curtailed source is included in the source-specific cap program; and • the source must be included in the prospective inventory at its capped emissions level.	*The integrity element of surplus does not apply to emission reductions made by sources participating in multi-source emission cap programs.*	*The general definition of surplus applies to the generation of DERs based on the lower of their allowable or historical actual emissions. Reductions generated due to participating in the Acid Rain NO_X or SO_2 reduction program (Phase I or II) or through compliance with any requirement of the CAA are not surplus.*
Enforceable			
In addition to the general definition: •each source owner/operator is liable for emissions violations and the validity of the emission reduction generation or use.	*In addition to the general definition:* •Owners/Operators of sources generating emission reductions are liable meeting their emission limits, and for the truth and accuracy of statements regarding actions they take to generate emission reductions. •Owners/Operators of sources using emission reductions are liable for meeting their emission limit as it is modified through trading, and for the validity of the emission reductions it uses.	*In addition to the general definition:* •each source owner/operator is responsible for owning enough allowances to cover its emissions for the given time period and for providing clear title to the allowances it transfers.	*In addition to the general definition:* Owners/Operators of sources generating DERs: • must ensure the truth and accuracy of statements regarding actions taken to generate DERs, and • are liable for meeting their emission limits Owners/Operators of sources using DERs: • must ensure the validity of DER generation and use, and • are liable for meeting their emission limits

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Table 4.2(b): Comparison of Source-Specific Integrity Elements for Trading EIPs			
Emission Averaging	**Source-Specific Emission Cap**	**Multi-Source Emission Cap-and-Trade**	**Open-Market Trading**
Quantifiable			
In addition to the general definition: • sources must quantify the activity level and the emission rate per activity level.	*In addition to the general definition:* • sources must quantify total emissions per unit of time.	*In addition to the general definition:* • sources must quantify total emissions per unit of time.	*In addition to the general definition:* • sources must quantify their activity level and their historical, actual, and allowable emission rates per activity level. • DER generators must quantify their emissions before and during implementation of the reduction strategy. • DER users must quantify the amount of DERs they will need to cover their total emissions when using DER's.
Permanent			
In addition to the general definition: • the source's emission reduction must last throughout the life of the program defined in the SIP.	*The general definition applies.*	*The integrity element of permanent does not apply to emission reductions made by sources.*	*The general definition applies.*

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Table 4.2(c): Comparison of Source Specific Integrity Elements for Other EIPs		
Financial Mechanism	**Clean Air Investment Fund**	**Public Information**
Surplus		
C If the financial mechanism is replacing other SIP requirements, then the general source-specific surplus definition applies. C For other financial mechanisms (particularly mobile source EIPs), the source-specific surplus element does not apply to individual sources.	*The general source-specific definition of surplus applies to the generation of emission reductions used by the fund.. Reductions generated through compliance with any requirement of the CAA are not surplus.*	*For many public information EIPs, the source-specific surplus element does not apply to individual sources.*
Enforceable		
The general definition applies.	*The general definition applies.*	*If you can identify individual or indirect sources the general definition applies.* Otherwise, one of the following three requirements applies: • your EIP submittal includes fully adopted enforceable contingency measures, and you commit to automatically implementing one or more of these contingency measures if necessary; or • you incorporate your EIP into your SIP but count emission reductions on a retrospective basis only; or • you have used the control strategy in your EIP in a similar situation and have achieved positive results, and you get preliminary approval from your EPA Regional Office to use this provision.
Quantifiable		
Depending on the program: • For financial mechanisms that replace SIP requirements, sources must usually quantify total emissions before and after implementation of the EIP. • In most other cases, sources must quantify total emissions per unit of time during implementation of the EIP. • Some financial mechanisms may calculate source emissions on an aggregate level only, and not source by source (i.e., transportation pricing). • Some financial mechanisms may be based on an emissions related activity, rather than directly on emissions.	*Depending on the program:* • sources that are paying fees must quantify their actual and allowable emissions. • sources that generate emission reductions must quantify emissions before and during implementation of the reduction strategy.	*Depending on the program:* C In most cases, the integrity element of source-specific quantification does not apply to participating sources; however, some EIPs may require source-specific emission quantification before and during implementation of the EIP.
Permanent		
The general definition applies for financial mechanisms that replace SIP requirements. For most other financial mechanisms, the integrity element of permanent does not apply.	*The general definition applies.*	*The general definition applies.*

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4.2 How must my EIP meet the equity principle?

Equity is composed of two elements:

- general equity, and
- environmental justice.

The general equity element applies to all EIPs The environmental justice element applies if your EIP:

- covers VOCs and,
- could disproportionately impact communities populated by racial minorities, or Tribes.

The following sections explain what these elements mean. Section 4.2(a) covers general equity and 4.2(b) covers environmental justice.

4.2(a) General Equity

Your EIP should be equitable. Equitable means that your EIP should ensure that:

- all segments of the population are protected from public health problems, and
- no segment of the population receives a disproportionate share of a program's disbenefits.

Your EIP can show this if local stakeholders conclude that it:

- encourages less disproportionate impact among communities, and
- discourages actions that cause disproportionate impact among communities.

Equity issues can be caused by an uneven distribution of emissions, or other non-emission effects. Some communities are considered communities of concern, because they have historically experienced higher emission levels than other communities in the same locale. These higher emissions often result in less healthy air quality. You may have equity issues that need resolution if your EIP:

- continues or exacerbates existing pollutant concentrations in existing communities of concern, or
- causes new communities to experience higher emission levels than other communities in the same locale.

Some examples of non-emissions issues are:

- transportation pricing that reduces a low-income individual's access to transportation (for a more complete discussion on equity issues associated with transportation pricing programs, consult "Opportunities to Improve Air Quality through Transportation Pricing Programs," EPA 420-R97-004, September 1997.)

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- emission fee programs that make marginal plants that are clustered in particular communities unprofitable and subject to closing

Some possible equity issues include pollutant concentrations from criteria pollutants and the resultant impact on criteria pollutant levels and HAP concentrations resulting from VOC emissions. Since VOCs are often HAPs, EIPs that involve VOCs can cause equity concerns about localized HAP emissions. Section 16.2 contains more guidance on how to address equity issues that are caused by HAP emissions. You may also have environmental justice concerns if the communities of concern have a large low-income or minority population.

Equity issues involving emissions can arise for EIPs that:

- allow sources to use EIP generated emission reductions for compliance purposes.
- allow sources to pay a fee in lieu of reducing emissions within an emission fee or CAIF program.

Equity concerns that apply to communities of concern may also apply to Indian Tribes. These Tribes are sovereign governments, yet they may also experience higher emission levels than the communities that surround them. You will need to work with the Tribal governments to address any equity issues that arise, whether they be environmental or economic issues. You may even consider allowing Tribes to participate with you in the design and implementation of an EIP.

You can minimize equity issues in your EIP by working with local stakeholders and Tribal governments to include provisions that protect certain communities. Some potential provisions are:

- prohibit sources in these communities from using emission reductions for compliance purposes while allowing these sources to generate emission reductions that can be used elsewhere.
- make it more difficult for sources in these communities to use emission reductions by increasing the trading ratio for sources in these communities.
- make purchasing of emission reductions from sources in these communities more attractive (e.g., by subsidy, or through trading ratios).
- require a ***Reasonably Available Control Technology*** level of emission controls for all sources in these communities regardless of the possibility to trade.
- prohibit sources in these communities to pay a fee in lieu of installing and using RACT within the context of an emission fee or CAIF program.
- dedicate some or all fees collected in a CAIF program to emission reduction programs that improve the air quality in these communities .
- subsidize activities that would lead to a reduction of emissions in these communities.
- provide incentives for development of new technology that would lead to a reduction of emissions in these communities.

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This list is not all inclusive. You may choose, with the help of your stakeholders, to adopt these or other provisions to protect such communities. You must explain the rationale behind any provisions you adopt in your EIP to protect communities of concern.

Table 4.3 (a) explains how general equity applies to trading EIPs and table 4.3(b) explains how general equity applies to other types of EIPs. Regardless of the type of EIP, local stakeholder involvement and public participation should be the barometer by which adequate protection from disproportionate impacts is measured.

Table 4.3(a):General Equity Principle for Trading EIPs

Emission Averaging	Source-Specific Emission Cap	Multi-Source Emission Cap-and-Trade	Open-Market Trading
If the program allows emission averaging between properties, your EIP submittal should protect communities from disproportionate impacts from emission shifts and foregone emission reductions.	If the program allows trading among different properties, your EIP submittal should protect communities from disproportionate impacts from emission shifts and foregone emission reductions.	Your EIP submittal should protect communities from disproportionate impacts from emission shifts and foregone emission reductions.	Your EIP submittal should protect communities from disproportionate impacts from emission shifts and foregone emission reductions.

Table 4.3(b): General Equity Principle for Other EIPs

Financial Mechanism	Clean Air Investment Fund	Public Information
Your EIP submittal should protect communities from disproportionate impacts resulting from: - emissions shifts and forgone emission reductions - costs imposed by the program.	Your EIP submittal should protect communities from disproportionate impacts from: - emission shifts and foregone emission reductions - fund expenditures.	Your EIP submittal should protect communities from disproportionate impacts.

4.2(b) Environmental Justice

The EPA is committed to assuring that all persons:

- have an opportunity to participate meaningfully in environmental decision making; and
- live in a safe and healthful environment.

Section 1-101 of Executive Order (EO)12898 calls on EPA (and all Federal agencies) to make environmental justice part of its mission by identifying and addressing disproportionately high and

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adverse human health or environmental effects of EPA's programs, policies and activities on low-income and minority populations.

In keeping with EO 12898, this guidance specifies how you should incorporate environmental justice into your EIP. In particular, the guidance seeks to address concerns about the potential for disproportionate environmental impacts to low income communities, minority communities, and/or Tribes under an EPA-approved EIP. The EPA will use this guidance to review your EIP in light of the EO.

By incorporating the environmental justice element into your EIP, EPA believes you may reduce the chance of causing disparate impacts based on race, color, or national origin - which are prohibited under EPA regulations implementing Title VI of the ***Civil Rights Act***.

The environmental justice element applies if your EIP:

- covers VOCs, and
- could disproportionately impact communities populated by racial minorities, people with low incomes, and/or Tribes.

Environmental justice issues may arise when your EIP:

- continues or exacerbates existing toxic ***emissions loadings*** in communities of concern, or
- causes low-income communities, minority communities, or Tribes to become communities of concern.

You may need to include provisions in your EIP to protect communities of concern. Here are some examples of such provisions: are listed below, you may develop others as appropriate:

- prohibit sources in these communities from using emission reductions for compliance purposes while allowing these sources to generate.
- make it more difficult for sources in these communities to use emission reductions by increasing the trading ratio for sources in these communities.
- require a RACT level of emission controls for all sources in these communities regardless of the possibility to trade.
- prohibit sources in these communities to pay a fee in lieu of installing and using RACT within the context of an emission fee or CAIF program.
- restrict the use of fees collected in a CAIF program to emission reduction programs that improve the air quality in these communities.
- build incentives within your EIP to encourage the development or use of technologies that benefit communities of concern.

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This list is not intended to be all-inclusive. You may develop other provisions that are equally or more appropriate for your EIP. Whichever provisions you include in your EIP, you must be able to show that they provide protection to communities of concern.

Tables 4.4(a) and 4.4(b) indicate how environmental justice concerns may arise in different types of EIPs.

For information on addressing the effects of toxic emissions on communities of concern, see section 16.2, "VOC EIPs involving hazardous air pollutants." For information on addressing localized increases of HAPs through various types of EIPs, refer to the following sections:

- Trading EIPs - section 6.2(b).
- Financial mechanism EIPs - section 8.1(c).
- CAIFs - section 9.6(b).

Table 4.4(a): Environmental Justice Element for Trading EIPs

Emission Averaging	Source-Specific Emission Cap	Multi-Source Emission Cap-and-Trade	Open-Market Trading
If the program is limited to trades within one property, the EIP will probably not cause environmental justice concerns. If the program allows emission averaging between properties, your EIP submittal should protect communities of concern from disproportionately high and adverse impacts from emission shifts and foregone emission reductions.	If the program is limited to one property, the EIP will probably not cause environmental justice concerns. If the program allows trading among different properties, your EIP submittal should protect communities of concern from disproportionately high and adverse impacts from emission shifts and foregone emission reductions.	Your EIP submittal should protect communities of concern from disproportionately high and adverse impacts from emission shifts and foregone emission reductions.	Your EIP submittal should protect communities of concern from disproportionately high and adverse impacts from emission shifts and foregone emission reductions.

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Table 4.4(b): Environmental Justice Element for Other EIPs		
Financial Mechanism	**Clean Air Investment Fund**	**Public Information**
Your EIP submittal should protect communities of concern from disproportionately high and adverse impacts resulting from: emissions shifts and forgone emission reductions . costs imposed by the program.	Your EIP submittal should protect communities of concern from disproportionately high and adverse impacts from: - emission shifts and foregone emission reductions - fund expenditures.	Your EIP submittal should protect communities of concern from disproportionately high and adverse impacts.

4.3 How must my EIP meet the environmental benefit principle?

All EIPs must demonstrate environmental benefit. This demonstration can show:

- faster attainment than would have occurred without the EIP
- more rapid emission reductions than would have happened without the EIP
- more emission reductions (of HAPs or criteria pollutants) than would have happened without the EIP

If your trading or CAIF EIP covers a nonattainment area that is ***needing and lacking an approved attainment demonstration*** (NALD) then your EIP *must* meet the environmental benefit requirement by requiring a 10 % extra reduction in emissions. If your trading or CAIF EIP does not cover nonattainment areas that are NALD, or your EIP is not a trading or CAIF EIP, then your EIP can meet the environmental benefit requirement in a variety of ways. It can require a 10 % extra reduction in emissions, or it can implement other provisions such as:

- improved administrative mechanisms (e.g., that achieve emissions reductions from sources not readily controllable through traditional regulation),
- reduced administrative burdens on regulatory agencies that result in increased environmental benefits through other regulatory programs,
- improved emissions inventories that enhance and lend increased certainty to State planning efforts,
- the adoption of emission caps which over time constrain or reduce growth-related emissions beyond traditional regulatory approaches.
- for multi-source cap and trade program or a single source cap and trade program, includes a declining cap.

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In terms of emission reductions, environmental benefit is measured from an emissions baseline that represents the emissions that would have occurred if the EIP were not implemented. Sometimes this baseline includes emissions increases, and sometimes it includes emission decreases.

- If the emissions baseline includes emissions increases, you can show environmental benefit by showing that after the EIP is implemented the emissions will be lower than they would have been without the EIP.

- If the emissions baseline includes emissions decreases, you must demonstrate that after the EIP is implemented the emissions are lower than the emissions would have been without the implementation of the EIP.

If your EIP is an emission reduction EIP, it must meet additional emission reductions requirements as explained in later chapters.

Applying the environmental benefit principle is different for each type of EIP. Table 4.5 (a) and 4.5(b) summarize how the environmental benefit principle applies to different EIPs. For a more complete description see:

- For all EIPs - section 5.1 (a)
- For trading EIPs - section 6.5 (a)
- For financial mechanism EIPs - section 8.1(d)
- For CAIFs - section 9.6(b)
- For public information EIPs - section 10.1

Table 4.5(a): Environmental Benefit Principle for Trading EIPs

Emission Averaging	Source-Specific Emission Cap	Multi-Source Emission Cap-and-Trade	Open-Market Trading
Your EIP includes C a rate-based limit that is more stringent than the one you could promulgate without trading or C discount all available emission reductions by at least 10% or C another demonstrated environmental benefit (if allowed).	Your EIP C results in emissions that are at least 10 % lower than what would have occurred without the EIP C has other provisions that demonstrate environmental benefit (if allowed).	Your EIP meets all the requirements in section 7.4 and has C a declining budget, or C caps that set an absolute limit on mass emissions which would otherwise have increased or would have increased at a greater rate, or C other provisions that demonstrate environmental benefit.	Your EIP C results in emissions that are at least 10 % lower than what participating sources would achieve if they complied directly with emission standards C has other provisions that demonstrate environmental benefit (if allowed).

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Table 4.5(b): Environmental Benefit Principle for Other EIPs		
Financial Mechanism	**Clean Air Investment Fund**	**Public Information**
Your EIP C must achieve emission reductions that would not be achieved without the implementation of your EIP, or C have other provisions that demonstrate environmental benefit. If your EIP is *replacing* existing SIP requirements then your EIP must result in more emission reductions than would have occurred under the original SIP requirement.	Your EIP C must achieve at least 10% more emission reductions than participating sources would achieve if they complied directly with the emission standard instead of paying into the CAIF, or C have other provisions that demonstrate environmental benefit (if allowed).	Your EIP C must achieve emission reductions that would not occur without the program, or C have other provisions that demonstrate environmental benefit.

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5.0 Common Elements of All EIPS

Many program elements are common to trading EIPs, financial mechanism EIPs, CAIFs, and public information EIPs. These elements include the provisions of your EIP you need to incorporate into your SIP, provisions for quantifying the results of your EIP (i.e., emission impacts), and the features you must include in your EIP rule to measure and track these results.

As emphasized in section 1.9 of this guidance document, this document proposes key elements for EIPs. The EPA currently believes that a program containing these elements (which are phrased in the imperative - using the terms "must" or "shall") would assure that the program would meet the applicable CAA provisions.

Once you submit a SIP revision containing an EIP, EPA will take action through notice-and-comment rule making to determine if the statutory requirements have been met. Only action taken after the conclusion of that rulemaking would constitute final Agency action. The EPA would take steps to expedite its proposed approval in the case of SIP revisions containing programs that contain the elements of this guidance.

If you submit a program that does not contain the elements of this guidance for that type of program, EPA would still seek to determine whether the applicable CAA requirements were met, and, if so, EPA would approve the submission. The EPA would make this determination through notice-and-comment rule making.

5.1 What provisions do I need to incorporate my EIP into my SIP?

There are several attributes necessary for any EIP you submit to the EPA for approval as part of your SIP. These include:

- Provisions for regulated sources participating in your EIP to share the potential benefits of increased flexibility and reduced overall costs with the environment.

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- Requirements all EIPs must meet with respect to issues of localized community impacts.
- Provisions for imposing penalties when a source violates its obligations under your EIP, and requirements for disclosing information that allows the public to calculate and evaluate the effects of the mass of emissions from each participating source.
- Provisions for participating sources to protect ***Air Quality Related Values (AQRV)*** in or near ***Class I area***s, including notification of the relevant ***Federal land manager (FLM)***.
- Provisions that allow sources to avoid direct application of RACT.
- Provisions that ensure NAAQS concentrations will decrease as a result of your EIP.

You will find references below that guide you to other sections of this document that discuss these attributes in greater detail and as they pertain to your specific EIP.

5.1(a) Environmental benefit provisions

The EPA's policies on innovative strategies have consistently stated the need for an ***environmental benefit***. Recognizing that an EIP may be an effective way to reduce emissions, this Federal EIP guidance requires you to demonstrate the environmental benefit, but recognizes that the type of demonstration appropriate will depend on the goals and characteristics of the EIP you are implementing.

- C Programmatic reduction EIPs generally demonstrate an environmental benefit by showing increased or equivalent emission reductions more rapidly.
- C Flexibility EIPs generally demonstrate an environmental benefit by reducing the amount of surplus emission reductions generated for use in the EIP by at least 10 percent.

If your EIP covers nonattainment areas that are NALD the EIP must demonstrate an 10% extra emission reduction. If your EIP does not cover nonattainment areas that are NALD, you can also demonstrate an environmental benefit by showing your EIP:

- C includes improved administrative mechanisms (e.g., that achieve emissions reductions from sources not readily controllable through traditional regulation),
- C reduces administrative burdens on regulatory agencies that result in increased environmental benefits through other regulatory programs,
- C improves emissions inventories that enhance and lend increased certainty to State planning efforts,
- C adopts emission caps which over time constrain or reduce growth-related emissions beyond traditional regulatory approaches.
- C includes a declining cap (for a multi-source cap and trade program or a single source cap and trade program).
- C does not increase emissions in low-income or minority communities.

You will find more specific information on the content of the environmental benefits demonstration for emission trading EIPs in section 6.5(a), "Demonstration of Environmental Benefits."

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Almost all financial mechanisms will meet the environmental benefit requirement if they conform to all the applicable requirements in this guidance and achieve emission reductions that would not occur without the program. However, if a financial mechanism is adopted to *replace* an existing SIP requirement, then you must demonstrate that the EIP will result in more emission reductions than would have occurred under the original SIP requirement. You do not have to show that the same amount of emission reductions occur at each source, but that the emission reductions projected by the implementation of the EIP on a program-wide basis are more than what was projected by the original SIP measure.

A CAIF will meet the requirement of environmental benefit if you demonstrate that the CAIF will achieve at least 10 percent more emission reductions than participating sources would achieve if they complied directly with the emission standard instead of paying into the CAIF. These extra emission reductions can come as a direct result from investing the collected fees or by other additional enforceable emission reduction measures that you include in your CAIF EIP submittal. For example, if sources paying into a CAIF have foregone emission reductions equal to 100 tons, you must demonstrate that the CAIF results in 110 tons of emission reductions - the additional 10 tons being retired for the benefit of the environment.

Public information programs will meet the requirement for environmental benefit by conforming to all the applicable requirements in this guidance, and achieving emission reductions that would not occur without the program.

5.1(b) Provisions for localized impacts of hazardous air pollutants

Many VOC emissions contain ***Hazardous Air Pollutants (HAPs)*** which are toxic air pollutants. The EPA believes that localized impacts of HAP emissions must be addressed for certain EIPs that affect VOC emissions. If your EIP is a trading program, CAIF or an emission fee program that allows VOC HAPs to be shifted from one facility to another then your EIP must follow the HAP framework found in section 16.2.

Your EIP must also meet public participation requirements. Sections 16.2 and 16.5 contain guidance on how your EIP can meet the public participation requirements.

5.1(c) Penalty provisions

You must include provisions for imposing penalties when a source violates its emissions reduction, record keeping, and other obligations under your EIP. You must define a violation, establish the procedure for determining the magnitude of a violation, set potential penalties, and maintain the ability to impose a maximum monetary penalty of at least $10,000 per day per violation (Title V of the CAA currently requires States to have a maximum penalty authority of at least $10,000 per day per violation; the Federal CAA maximum is $27,500 per day per violation). Nothing in the State's authority or State's SIP affects the ability to collect $27,500 per day per violation under Federal causes of action.

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You must retain the right to impose and collect a monetary penalty, although you do not need to exercise this right for all violations. Your potential penalties may include, in addition to monetary penalties, market-based penalties for infractions of emission trading EIPs. The potential penalties in your EIP must provide sufficient disincentives for noncompliance.

Your EIP must specify that it is a violation of each and every day within the averaging period if a source does not meet the requirements of the EIP (have sufficient emission reductions, etc) for that averaging period. That is, a source will have 30 days of violations if a monthly averaging limit is not met and 365 days of violations if an annual limit is not met. These are considered emissions violations. There are also monitoring violations for failure to have monitors in working order a sufficient percentage of the time, and for failure to record and keep records as required.

Your EIP rule must include provisions to assess the following penalties:

- Monetary penalties for violations where the violator gained an economic benefit of at least $5,000.
- Additional monetary penalties to deter future violations.
- Penalties for violation of compliance measures, such as monitoring, record keeping and reporting requirements and other requirements (e.g., testing) where an economic benefit is not readily determinable.

While your EIP rule must have the provisions to assess the penalties discussed above, you need not assess the maximum penalty for all violations, unless the situation warrants it. Indeed, enforcement agencies seldom assess the maximum penalty - the actual penalty they assess reflects their enforcement discretion, based on the nature and circumstances of the violation.

You may use the BEN computer model to evaluate the economic benefit of noncompliance gained by a violator. You can access the BEN model at http://es.epa.gov/oeca/models/ben.html.

Based on the type of program and the source category of the violator, the appropriate option or range of options may be different in each case. To determine monetary penalties you should follow:

- For stationary sources, the EPA's "Clean Air Act Stationary Source Civil Penalty Policy," which can be found at http://es.epa.gov/oeca/ore/aed/comp/acomp.html.
- For mobile sources, a policy that is consistent with the stationary source policy.

For specific information on penalty provisions in emission trading EIPs, see section 6.1, "What Enforcement Elements Must All Trading EIPs Contain?" This section discusses provisions for:

- assessing liability for generators, users, and third parties participating in trading transactions (section 6.1(a)),
- assessing penalties against participating sources (section 6.1(b)), and

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- addressing sources with title V permits (section 6.1(c)).

Your ability to assess monetary penalties is a valuable deterrent to violators, one that must be included in the authority for the EIP, even if cash penalties are not assessed in every case. In some situations financial penalties may not be appropriate. For example, you may not want to assess monetary penalties against a government agency or public entity participating in a trading EIP if other more appropriate penalty provisions are already in place. However, as governmental and other public facilities are assessed monetary penalties under non-trading parts of the CAA, you can assess monetary penalties on these parties if no other appropriate penalty is available.

Finally, to avoid potential conflicts with limiting EPA's or citizen's independent enforcement authorities under the CAA, any rules outlining your inspection and penalty authorities must include the following statement, "Nothing herein restricts independent enforcement authorities under the Clean Air Act by other parties."

5.1(d) Procedures for public disclosure of information

The CAA (section 114(c)) and implementing regulations (40 CFR 2.301) specify procedures and criteria for determining what information must be available to the public and what information may be withheld from the public as confidential business information. These procedures and criteria apply to information in EIPs, just as they apply to information in other Clean Air Act programs.

However, to function properly, many EIPs demand greater public accountability than sources would encounter in a conventional control program. To show source compliance, EIPs often require production data or other activity-related data. For example, to verify source compliance with an EIP, you may have to require sources to calculate and evaluate the effects of the mass (tonnage) of emissions.

Congress has recognized that regulatory failures can and do occur. To provide another avenue of protection, Congress ensured that the public has the right to access information and file ***suit*** in a Federal court. Because citizens have the right to bring legal actions under the CAA, your EIP must ensure that the public has access to emission information. The public needs to be able to see the data in order to adequately judge the effectiveness of your EIP and exercise the right to file suit[7].

You must disclose information in a manner that is transparent, allowing the public to easily and accurately calculate the emissions (or data relevant to other enforceable requirements such as emissions rates) of each participating source or source category. You must also disclose the identity of each source and do so in a way that allows the public to track emissions by source. You must:

[7]Note that citizens cannot file suits against Tribes, or sources owned and operated by Tribes. See 40 CFR part 49.4(o).

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- Require persons participating in the EIP to disclose violations to you in an annual certification of compliance or non-compliance.
- Require sources that violate permits to notify the affected community of the violation and of potential health and environmental impacts.
- Compile these disclosures into an annual comprehensive report on emissions and violations.
- Submit this report to EPA and make it available to the public.

If your EIP is submitted to comply with the NO_X Budget Trading Rule in response to the NO_X SIP call, you do not need to compile and submit the annual comprehensive report on emissions and violations - EPA will compile the information and release these reports.

Section 114(c) in the CAA and the regulations at 40 CFR 2.301(a)(2) provide for trade secret protection, but also state that emission data may not be withheld from the public. This disclosure requirement extends to the "information necessary to determine, the identity, amount, frequency, and concentration" of emissions. In addition, for large stationary sources, section 503(e) of the CAA, as amended, provides that where such information is included in emission monitoring reports to States under ***title* V** of the CAA—as it generally would be in any EIP for stationary sources under a SIP—that information must be made available to the public.

Your rule must state that you will obtain from the participating sources and disclose to the public all information necessary to calculate every source's or source category's emissions (tonnage). Because of the public's recognized right to participate in and review the administration of an EIP, you must not accept any source's assertion of the confidentiality of any information required for calculating emissions.

To inform the public, you must require all participating sources to provide information to you in a format that allows you to meet your disclosure obligations. You must also require the sources to provide information to you on a schedule that is consistent with your own schedule for informing the public. You must provide information to the public at least once a year.

Your EIP may include sources or source categories for whom data on production or other measures of activity are not necessary to calculate emissions. For this type of source or source category, you need to obtain and disclose data only on emissions. For example, a source that installs a continuous emission monitor probably would have no need to disclose production or emission rate data to allow you or the public to calculate its emissions.

5.1(e) Provisions for FLM notification in Class I areas

If your EIP covers sources or within 100 kilometers (km) of a Class I area then your EIP must comply with the FLM notification in Class I areas requirements in Section 16.6.

5.1(f) Area-wide RACT provisions

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To meet CAA RACT requirements, stationary sources are required to reduce their emissions through the application of RACT. Your EIP may allow sources subject to RACT to avoid direct application of RACT technology by:

- Trading with other sources subject to RACT.
- Trading with sources not subject to RACT.
- Paying an emission fee.

In doing so, it is important to note that these sources are not avoiding the RACT requirements; they are avoiding the direct application of RACT technology. The reductions called for by RACT requirements are satisfied through other means.

If your EIP allows sources to avoid direct application of RACT technology, your EIP must contain provisions that meet section 16.7.

5.2 How do I quantify the results of my EIP?

One of integrity's fundamental elements, *quantifiable*, requires that you can reliably and replicably calculate the amount of emissions and/or emission reductions occurring during the implementation of your EIP. The fundamental elements also require that emission reductions be surplus in order to avoid double counting of reductions. Your quantification procedures should ensure that these fundamental elements are applied throughout the life of your program. As a general principle, when quantifying the amount of emission reductions generated or needed for compliance, a source must use measurement techniques no less accurate than those required for the source to demonstrate compliance. Sources are not required to use measurement techniques more accurate than those required for the source to demonstrate compliance.

Quantification is the process you will apply to predict and measure the emission impacts of your EIP. The type of quantification provisions you include in your EIP SIP submittal and your program will depend on the goals of your EIP. Quantification plays two roles on your EIP: first as a way to predict the emission impacts of your program, and second to evaluate the results of your program once it is up and running.

Your EIP's quantification requirements depend on your specific program type. All EIPs need to provide quantification information that:

- Establishes a pre- and post- EIP emission level for the overall program.
- Differentiates between emission reductions that are a result of your EIP, and emission reductions that are a result of some other regulatory measure.
- For trading programs, provides information that you use to track emissions reduction generation, availability, and use.

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Depending on your EIP, the source of the data used in quantification may include using data already reported or available, or requiring regulated sources to track and report original data. Depending on the type of EIP, quantification must be performed either continuously, or at specific times throughout the compliance period. Your EIP must also include ***quantification protocols*** - the technical plans and procedures used to quantify emission reductions for generation and use in EIPs. You or your sources must develop these for your EIP if no such protocols exist. They can either all be developed and included when you submit your EIP for EPA approval, or they can be submitted for EPA approval after the EIP is approved. Quantification protocols and their requirements are discussed further in section 5.2(c).

Reporting frequency requirements applicable to sources should also be linked to your EIP's program evaluation requirements. Nonetheless, your EIP should set a deadline when all sources should provide you with the necessary data.

5.2(a) Predicting EIP results

Your EIP SIP submittal must include projections of the emission reductions associated with program implementation. These projected results must be based on technical assumptions related to and consistent with the assumptions used to develop your area's attainment demonstration and maintenance plan, as applicable, and must provide sufficient supporting information showing what the impact would be on the ***applicable inventory***. The projected results must show that your EIP will not interfere or be inconsistent with SIP or SIP-related requirements including:

- attainment plan or maintenance plan,
- reasonable further progress,
- rate of progress, and
- ***transportation conformity***.

You must develop reliable and replicable forecasts of your State's pre- and post- EIP emission levels for your SIP submittal. This is important for EIPs making emission reductions to meet SIP requirements. Your forecasts should cover the lesser time period of 10 years or up to the last year you expect your EIP to impact emissions. If your EIP is likely to impact your mobile source emissions inventory for a period of more than 10 years, you may need to project the results out to as long as 20 years to be consistent with your conformity process time line.

EIPs that are submitted to comply with the NO_X Budget Trading Rule in response to the NO_X SIP call do not need to perform this analysis. The analysis has already been performed as part of determining the NO_X emissions budgets.

5.2(b) Addressing uncertainty

Implementation of an EIP should provide greater rule effectiveness, elimination of alternative emission limits, and other environmental benefits. However, implementing any type of EIP may result in higher or

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lower emissions than projected, due to geographic or timing uncertainities in emission distributions. Therefore, you must:

- C determine the level of uncertainty.
- C reflect this uncertainty in your projections.
- C provide a range of estimates of the emission reductions attributable to your EIP.
- C judge the likelihood that your EIP will interfere with your State air quality planning requirements and demonstrations.
- C if the likelihood is high, develop a credible forecast of the degree of interference and adjust the emission reductions expected from your program accordingly, or make other appropriate adjustments. This forecast may include an estimate of how emission reductions will be generated and used:
  - -- over time,
  - -- during the ***ozone season***, and
  - -- during the ***CO season***.
- demonstrate that you have adjusted your emission projections in your air quality management plan.
- C determine whether that level of uncertainty is acceptable and document your decision,
- C include the documentation, including your assumptions, in your SIP submittal.
- adjust emission projections, attainment demonstrations, and RFP/ROP plans to reflect the uncertainty.
- C demonstrate that implementing the regulatory program will not interfere with attainment or maintenance of any NAAQS.
- C evaluate the results of your EIP as described in section 5.3(b), and
- C reconcile any problems as described in section 5.3(c).

Your analysis will require more effort if your program involves a large amount of emissions, either for a specific EIP or for all your State's EIPs combined.

Some EIPs increase uncertainty about the magnitude, duration, and geographic distribution of emissions, making this demonstration more complex. This uncertainty about emissions implies some likelihood that your EIP could interfere with the State's attainment, maintenance, RFP, visibility requirements, or RACT demonstrations and requirements.

The types of uncertainty to be analyzed and factored in include programmatic uncertainty and source-compliance uncertainty. When evaluating the level of programmatic uncertainty you may experience, you should examine the following issues:

- How many sources participate in the program?
- What is the predicted level of affected emissions?
- Will the program allow for any geographic or temporal shifting of emissions?
- What is the reliability of these projections?

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When evaluating the level of source-specific compliance uncertainty you may experience, you should examine the following issues:

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- Are the participants following the rules?
- How effective is program enforcement?
- How reliable is the technology used to measure emissions?

In a trading program, uncertainty may also arise when there are differences in certainty in the quantification techniques between the generation and use of emission reductions. You must consider and address this uncertainty. Generally, your program should seek a degree of certainty in emission measurement that is relatively equal among the sources involved in your trading program. This issue is discussed in greater detail in section 6.4(c).

Determining the magnitude of the uncertainty depends mainly on the amount of emissions potentially covered by the program. The level of analysis you conduct depends on the magnitude of the uncertainty. You may do a simplified demonstration if the cumulative emissions potentially covered by all EIPs in your area is small. Conversely, you should perform a more comprehensive demonstration if the cumulative emissions potentially covered by all EIPs in your area is large. To further discuss the magnitude of these uncertainties, you should contact the appropriate EPA Regional Air Division Director listed in Table 1.1 of this guidance.

5.2(c) Approving quantification protocols

EIPs rely on emission quantification protocols to provide emission information as the basis for participation, source compliance, and overall program performance. An EIP quantification protocol is the technical procedure a source uses to calculate the amount of emissions and/or emission reductions associated with that source's activities under an EIP. Typically, these will be either trading or financial mechanism EIPs. For example, sources in an OMT EIP must use quantification protocols to quantify reductions generated or used by measuring their emissions. Protocols are particularly important when quantification techniques are not explicitly included as part of the SIP submittal. The EPA intends to establish quantification protocol criteria that you should require sources to use when developing emission quantification protocols.

Your EIP or other rules included in your SIP submittal must contain one of the following:

- C all applicable emission quantification protocols with your EIP SIP submittal for EPA approval, or
- C provisions for EPA approval of emission quantification protocols after the EIP are approved into the SIP.

When you develop provisions for EPA approval or disapproval of emission quantification protocols after the EIP is approved in to the SIP, your provisions:

- C must require a 30-day public comment period for each protocol before you submit it to EPA,
- C must require that every emission quantification protocol be submitted to EPA for a 45-day adequacy review along with any comments received during the public comment period,

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- must prohibit use of the emission quantification protocol if EPA gives notice during the 45-day review that the protocol is inadequate, and
- *may* allow use of an emission quantification protocol to generate emission reductions for an EIP if EPA:
  - takes no action during the 45-day adequacy review, or
  - approves the source-specific emission quantification protocol.

The EPA intends to take action on every emission quantification protocol submitted for use in EIPs by at least one of the following actions:

- disapproval during the 45-day adequacy review period.
- disapproval as a SIP revision when EPA:
  - took no action during the adequacy review process.
  - expressed approval during the adequacy review process.
- approval as a SIP revision.

Generators and users of emission reductions under a emissions quantification protocol undergoing EPA's adequacy review are doing so at some risk. If EPA rejects the protocol, the emission reductions will not be considered valid, and cannot be used.

The EPA may find it necessary to disapprove an emission quantification protocol in a formal SIP action at some time after the 45-day adequacy review. If EPA proposes to disapprove such a emissions quantification protocol:

- the protocol may not be used in any EIP after the date the proposed disapproval is published in the Federal Register.
- emission reductions generated under the protocol before EPA publishes the proposed disapproval in the Federal Register remain available for use, as long as they meet all other requirements for use.

If a protocol is disapproved at any time, EPA will provide an explanation of why the protocol was not approved. To decrease the chance of EPA disapproving an emission quantification protocol, we encourage you and potential EIP participants to:

- work closely with EPA when developing new emission quantification protocols.
- address any concerns EPA has expressed about a particular emission quantification protocol before submitting it to EPA for approval.

Protocols should include procedures for collecting required data, including the emission contribution from affected sources for periods in which:

- Data monitoring is not performed.
- Data are otherwise missing.

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- Data are demonstrated to have been inaccurately determined.

Your EIP must require entities participating in your EIP to retain copies of all relevant protocol information and their supporting documentation for no fewer than 5 calendar years after they submit the documentation to the State. To ensure the integrity of your EIP, your quantification protocols must contain methods that are credible, workable, enforceable, and replicable. Additional information on quantification protocols can be found in section 16.3, "Emission Quantification Protocols." The material in section 16.3 was originally written to apply only to open market trading DER generation and use; however, many of the concepts apply to emission quantification needs in other EIPs. You should use this information as general guidance for other EIPs as appropriate.

5.2(d) Emission quantification methods

Emission measurement protocols are very important for all EIPs. EIPs that cover nonattainment areas that are NALD are prohibited from using emission factors as explained below.

Continuous emission monitors or source-specific tests are the preferred methods to determine the actual pollutant emission rates from an existing source. Even then, the results of these methods apply only to the conditions existing at the time of the testing or monitoring. To provide the best estimate of longer-term (e. g., yearly or typical day) emissions, these conditions should be representative of the source's routine operations.

A material balance approach also may provide reliable average emission estimates for specific sources. In fact, for some sources, a material balance may provide a better estimate of emissions than emission tests would. In general, material balances can work in situations where a high percentage of material is lost to the atmosphere (e. g., sulfur in fuel, or solvent loss in an uncontrolled coating process.) In contrast, material balances may be inappropriate where material is consumed or chemically combined in the process, or where losses to the atmosphere are a small portion of the total process throughput. As the term implies, one needs to account for all the materials going into and coming out of the process for such an emission estimation to be credible.

If representative source-specific data cannot be obtained, emissions information from equipment vendors, particularly emission performance guarantees or actual test data from similar equipment, is a potential source of good information for emission estimation procedures.

If your EIP requires a source to measure mass emissions, you must document the protocol and specific data used to quantify emissions. Your EIP must also document the protocol and specific data that determine the amount of emission reductions needed for source compliance.

If any sources to be covered under your EIP are already subject to monitoring requirements, your EIP cannot exempt them from those requirements. Depending on the nature of your EIP, the EIP monitoring requirements may need to be more rigorous than they would be without an EIP.

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Additional option for areas that are not NALD

When other information is not available and the areas covered under your EIP are not NALD then you can use emission factors as a last resort to estimate emissions. If your EIP covers nonattainment NALD areas then you may not use emission factors under any conditions. In those cases where you use emission factors, you must do so with caution. While some emission factors were developed for a particular source, most emission factors, like those on EPA's CHIEF website, are general and were originally developed to apply to an entire source category. They represent an average emission rate for that type of facility, and were never intended to be used to estimate the emissions from any particular facility. These emission factors are useful in implementation planning, and are generally used when no site-specific information is available. However, actual emission rates from a particular facility can be very different from the average. If you must use emission factors, you should be aware of their limitations in accurately representing a particular facility. You should evaluate the risks of using emission factors in such situations against the costs of further testing or analyses.

If you use emission factors to quantify emissions for the EIP quantification, you must review the factor to see if it is appropriate and representative for the intended use. EPA's emission factors are rated either A, B, C, D, E, or U. The emission factor rating associated with a particular factor is useful as a rough indicator of that factor's viability relative to other factors. For example, an A-rated factor in AP-42 is supported by more data and may generally be considered more representative of a particular source category than a C-rated factor. However, the "A" rating does not mean that you should assume a high degree of certainty in the emissions estimate for a particular facility.

You can obtain EPA's recommended emission factors from EPA's Clearinghouse for Inventories and Emission Factors (CHIEF) World Wide Web site, located at http://www.epa.gov/ttn/chief/.

Hierarchy for selecting emission measurement protocols

Site-specific information is almost always a more reliable indicator of emissions than emission factors, and sources should use site-specific data whenever available or feasible. The EPA recommends the following emission quantification approaches in the priority order described in the hierarchy below:

- Continuous emission monitoring systems (CEMS) data on the unit generating the emissions during the generation
- CEMS data on the unit generating the emissions at a time other than the generation, but at representative conditions
- Multiple emission tests at the affected unit(s) at representative conditions
- Emission test at the affected unit(s) at representative conditions
- Emission test at maximum load or stack tests at identical unit
- Emission factors (where allowed) or material balance.

Note that this hierarchy cannot anticipate all possible permutations of available information on which to base emission estimates. Such situations should be considered in light of this hierarchy.

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5.3 What features must I include in my EIP to measure and track results?

You must include procedures in your EIP rule to measure the results of your EIP and track those results through ***monitoring, record keeping, and reporting (MRR)*** procedures. You must also develop EIP evaluation procedures in your SIP submittal to determine the overall effects of your EIP on emissions. Finally, you must include ***reconciliation procedures*** for your EIP in your SIP submittal if your evaluation determines that your EIP does not meet its predicted emission reduction goals. As discussed below in sections 5.3(b) and 5.3(c), you will have to periodically assess and reconcile the results of implementation of your EIP.

For a compliance flexibility EIP, periodic evaluation which includes quantification ensures that sources are in compliance with your EIP's emission standards and allows you to determine whether your EIP resulted in unintended emission increases. For a programmatic reduction EIP, the evaluation not only ensures that sources are in compliance with your EIP's requirements, but also that your EIP meets the emission reduction goals relied on in your SIP.

If your EIP allows sources to take actions that create emission reductions, you must quantify these reductions and demonstrate how they will affect the applicable ***emission inventory***. Ultimately, the determination of whether particular emission reductions are ***surplus*** requires the examination of whether reductions have been in any way "relied upon" in the inventory projections in your SIP.

Emission data gathered through the application of emission quantification protocols and monitoring and reporting procedures will be used in your program evaluation and, where necessary, program reconciliation procedures. Sources participating in your EIP contribute to the quantification process by applying emission quantification protocols and following MRR procedures.

5.3(a) Monitoring, record keeping, and reporting procedures

Monitoring, record keeping and reporting (MRR) procedures are essential elements of any environmental program. Monitoring ensures the operator of the source that compliance is being achieved at all times. It also ensures an inspector that compliance has been achieved at times when the inspector is not on site to observe compliant behavior. Monitoring records must be kept to ensure that the records are available for review by inspectors or source supervisors who are ensuring compliance activities. The records do not have to record and retain every monitored data point, as many monitors, such as gauges, continuously provide information. However, they should record and retain sufficient information to ensure continuous compliance. Periodic and annual reports are also essential to summarize the compliance picture for State planning purposes, for review by the EPA and the public, as well as by source managers who wish to oversee the progress of their participation in the EIP.

You must develop source- or source category-specific MRR procedures for your EIP to ensure source compliance and State and Federal enforceability. As you develop your MRR procedures, you should

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consider the amount of emissions covered by the program, the potential effects on small sources, and the resources of the participants. MRR procedures may vary among sources and categories, because the nature of the source or category may warrant such differences. Nonetheless, your EIP should require all sources to comply with adequate and effective MRR requirements. Examples of applications for MRR procedures include:

- Determining source compliance either directly or though the use of emission reductions.
- Determining the use rate for products or procedures.
- Determining the disclosure of product content labeling.
- Calculation of emission baselines for determining the amount of emission reductions realized from an EIP.
- Surveying data from the public showing changes in activity that are directly related to the public education program.
- Determining changes in traffic levels related to transportation pricing programs, including secondary effects to traffic on other corridors.
- For emission trading EIPs, calculation of emission baselines for determining the amount of emission reduction generation or the amount of emission reductions needed to show source compliance.

Traditional stationary source regulatory programs have focused on measuring emission rates (e.g., pounds of NO_X per millions of British thermal units (MMBtu)). Many EIPs, however, require measurement of total emissions per time period (e.g., pounds of NO_X per hour). This means that existing MRR procedures for other regulatory programs may not be sufficient for EIP purposes.

If you are implementing a compliance flexibility EIP, your EIP must require sources to demonstrate compliance for the same time period as the current SIP requirement. For example, if a source intends to use reductions from a trading program to demonstrate compliance with a daily VOC RACT requirement, the source must demonstrate that it has obtained sufficient emission reductions to demonstrate compliance for every day. This means that if your program requires annual compliance reporting, the source's report needs to show compliance for 365 independent time periods.

All records used to demonstrate compliance with an EIP must be kept by the source for a minimum of 5 years. However, if the source plans to trade emission reductions that were developed more than five years ago - and your EIP allows this - the source must maintain all records needed to document the generation of those reductions.

Your EIP rule must also contain provisions regarding quantification information that provides information that you use to track emissions reduction generation, availability, and use for trading programs. You also may need to design quantification protocols that track the creation and use of emission reductions.

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Key points to consider when developing MRR procedures

A wide range of MRR procedures are available to you that provide adequate information for determining source compliance. When developing your MRR procedures you should consider whether they have the following attributes:

- representativeness (characteristic of the source category and available monitoring techniques)
- reliability (repeated application obtains results equivalent to EPA-approved test methods)
- replicability (different users obtain the same or equivalent results)
- frequency (sufficiently repeated within the compliance period)
- timeliness (submitted for periodic EIP evaluation)
- enforceability (independently verifiable)

Disclosing information collected through MRR procedures

You must structure MRR requirements so that regulators, program participants, and the public can judge the compliance status of a source at practically any time, or, in the case of long-term emission limits, at the end of the compliance period. You must maintain all relevant MRR information at a secure and publicly accessible location. See section 5.1(d) for requirements regarding MRR data disclosure to the public.

Selection of MRR procedures

The MRR procedures you include in your rule will depend on the type of EIP and the types of sources or source categories participating in the EIP. The following are examples of MRR procedures:

- Continuous or periodic monitoring of emissions, production, activity levels, or emission control equipment operation.
- Measurement devices to verify emission rates and operating conditions.
- Measurement of mass emissions or emission rates using the EPA-approved reference test methods.
- Operating and maintenance procedures or other work practices.
- Record keeping of material usage, inventories, or throughput.

Your MRR procedures must also be designed to address uncertainty considerations. As an example, consider a compliance flexibility EIP. If you determine the uncertainty associated with generating emission reductions is greater than the uncertainty associated with using the reductions, your MRR procedures should include more frequent monitoring of actual conditions to ensure that the EIP-provided reductions are equivalent to those required under the original compliance scheme, without the EIP. This real world verification provides a QA/QC function.

You should refer to program-specific MRR guidance from the EPA for mobile, stationary, or area source programs, if applicable.

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5.3(b) EIP evaluation procedures

Program evaluation is the process of retrospectively assessing the performance of your EIP. The primary purpose of program evaluation is to determine the overall effects of your EIP on emissions and measure other aspects of program performance, such as increased flexibility or reduced costs. The exact program evaluation procedures you develop will depend on the type of EIP you select, the sources that are affected by your EIP, the stated goals of your EIP, and the data collected through your MRR procedures. If you are implementing a programmatic reduction EIP, you will evaluate the amount of reductions actually realized through the program, whereas for a compliance flexibility EIP, your evaluation would focus on compliance issues and whether any emission increases occurred.

You should also consider tracking and evaluating program performance measures that were raised by your stakeholders during the rule development process. In your SIP submittal, you must develop and include specific program evaluation procedures in your EIP. These procedures must include procedures that make the public - including communities of concern - aware that the program is being evaluated, and give the public ample opportunity to help evaluate the program. Some ways you can do this include:

- holding public meetings in the evening, in locations near the communities impacted by any emissions shifts,
- printing public notices announcing public meetings in local newspapers in the major languages used in the community, and
- providing translations of materials used at the meeting and translation of meeting transcripts.

You should refer to section 16.5 for more guidance on ensuring adequate public participation.

The procedures should also provide for public participation in any EIP reconciliation procedures, which are discussed in section 5.3(c). You should also make the results of the evaluation available to the public.

At a minimum, you must commit to conduct a program evaluation every 3 years[8]. This schedule coincides with other periodic reporting requirements such as those applicable to emission inventory revisions required by the CAA. You must also submit the results of your program evaluation to EPA. If stakeholders raised concerns during the rulemaking development process relating to your EIP's potential effect on general equity or environmental justice, you should consider an annual evaluation during the early years of implementing your EIP to ensure that these concerns are addressed in a timely manner.

If uncertainty arises in your trading EIP due to differences in certainty in the quantification techniques between the generation and use of emission reductions, one way to address this uncertainty is to include more rigorous monitoring and evaluation (see discussion at section 5.3(a) and 6.4(c)). Your evaluation

[8]For EIPs developed solely for the purpose of achieving visibility goals, the regional haze regulations call for evaluations at least every 5 years.

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program should include inspections to allow you to assess implementation of the program and to confirm assumptions. Annual evaluation of the program is appropriate for at least 2 years, until the projected emissions have been adequately confirmed.

For trading EIPs that allow banking (use of emission reductions in a period subsequent to the period in which they are generated), you must perform evaluation of inter-temporal effects annually. At a minimum, this would include a summary of usage of emission reductions from previous seasons, an aggregated accounting of emission reductions used and emission reductions generated for your EIP, and any other information gathered during the year that reflects on the accuracy of quantifying the emission reductions.

You must collect the data that you will use to conduct evaluations through your MRR procedures when you are implementing your EIP. You'll find performance measures to consider for your program evaluation in the following list.

- Comparison of forecasted emissions with actual emissions or emission reductions (including temporal and geographic distribution, and magnitude).
- Soundness of assumptions made in your initial emission forecasts, surplus determinations, and uncertainty determinations.
- Effects on emissions in attainment and RFP/ROP demonstrations, and emission budgets.
- Effects of modeled results in attainment and RFP/ROP demonstrations, emission budgets, NAAQS violations, and Class I areas.
- Impacts on effectiveness of source compliance, enforcement, and penalty provisions.
- Increases in local emissions of HAPs or criteria pollutants.
- Cost savings experienced by sources and regulators.
- Resources used to develop and implement your EIP compared to environmental benefits gained (e.g., cost-benefit analysis).
- Adequacy of State resources to implement the program over the expected life of the program.
- Documentation of emission reduction prices for trading program.
- Unintended beneficial or detrimental effects.
- Effectiveness of ***interstate provisions***.
- Improvements in emission control technology and MRR techniques.
- Inspection data that verify assumptions and track program implementation (i.e., real-world) of program elements.

Section 16.2 of this guidance provides additional performance measures you should consider for your program evaluation if your EIP involves trading of VOCs.

Some of these measures will be central to your program evaluation, others not. Those measures that you need to use depend upon your type of EIP, the amount of emissions covered by your program, the sources covered by your program, or public comments received during rule making. You must document the reasons for excluding any of these performance measures from your program evaluation procedures. The EPA suggests that you work closely with your EPA Regional Office when developing

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the program evaluation procedures for your EIP because of the program-specific nature of this aspect of EIP program design and administration.

5.3(c) EIP reconciliation procedures

Your EIP SIP submittal must include a commitment to develop and implement reconciliation procedures if your program evaluation determines that your EIP does not meet its predicted emission reduction goals, or causes an unforeseen increase in emissions. Your commitment does not need to be in a specific form of reconciliation. The primary purpose of conducting a program reconciliation is to correct any differences between forecasted versus actual emission reductions. This allows you the opportunity to make mid-course corrections to the program.

Your EIP SIP submittal must include an enforceable commitment that if your program evaluation shows a problem with the EIP such as a ***shortfall***, or a disproportionate impact to any low-income or minority communities, you must correct the problem as expeditiously as possible. Your commitment to correct the problem should be based on what you may achieve using reasonable, sustained efforts within the context of your State's rule making process. Corrections should include any revisions to the program to ensure that subsequent shortfalls do not occur. Any shortfall must be corrected as soon as practicable, but no later than the next triennial program evaluation. If your EIP is part of a SIP for a non-attainment area, failure to address this shortfall could lead to a finding under section 179(a)(4) of the Clean Air Act. In such a case, sanctions (under section 179(b) of the CAA) will be imposed.

For trading EIPs that allow banking (use of emission reductions in a period subsequent to the period in which they are generated), reconciliations must be considered following the annual evaluation. If a deficit or shortfall is revealed by the evaluation, the State should consider further restrictions such as ***flow control***s or suspension of use of banked emissions. If deficits are revealed for two consecutive compliance periods (such as an ozone season), the State should consider restrictions such as flow controls directly linking the use and generation of banked emissions during the period so that there is not a deficit for that period (See section 6.4 for a more detailed discussion of these restrictions). The EPA views shortfalls for three seasons out of any five as a presumptive requirement for suspension or termination of the program, instead of comprehensive program redesign and resubmittal.

These correction provisions are similar to the contingency measures included in your SIP. Unlike contingency measures for the SIP, you need to adopt and implement correction provisions only if the program evaluation shows they are needed. However, a failure to implement reconciliation provisions to correct for shortfalls or other program deficiencies may result in EPA issuing a SIP call requiring corrections within a defined time frame. You may rely on the formal contingency measures already adopted in your SIP. A list of possible forms of correction follows:

- Amending your EIP to address the problem in the future.
- Amending another of your existing programs in your SIP to address the emission shortfall.
- Adding another program to your SIP to address the emission shortfall.
- Adjusting emissions in your SIP to account for the actual ***emission profiles.***

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- Suspending your EIP until you have remedied the problems.
- Removing the EIP from your SIP.
- For trading programs, making up for an emission shortfall by adjusting the value of new emission reductions issued.
- For trading programs, making up for an emission shortfall through partial or complete reduction in value of banked emission reductions.
- Using an insurance fund of unused emission reductions (that you established before a problem was discovered) to make up the shortfall.

If your program evaluation indicates problems with your EIP that are not related to an emission shortfall, you should consider methods for remedying your EIP, such as modifying or adapting your existing program.

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6.0 Elements of All Trading EIPs

Section 6.0 introduces elements that are common to all trading EIPs. These elements include enforcement provisions, addressing specific pollutant effects, preventing interference with other air quality programs, addressing uncertainty, and a few other provisions such as elements for demonstrating environmental benefits. You should refer to this section for guidance on developing any EIP that involves trading. You must include the elements described in section 6.0 in addition to those contained in section 5.0. Each of the four main types of trading EIPs has its own unique characteristics and requirements. Section 7.0 provides you with the additional elements necessary for specific types of trading EIPs.

As emphasized in section 1.9 of this guidance document, this document proposes key elements for EIPs. The EPA currently believes that a program containing these elements (which are phrased in the imperative - using the terms "must" or "shall") would assure that the program would meet the applicable CAA provisions.

Once you submit a SIP revision containing an EIP, EPA will take action through notice-and-comment rule making to determine if the statutory requirements have been met. Only action taken after the conclusion of that rulemaking would constitute final Agency action. The EPA would take steps to expedite its proposed approval in the case of SIP revisions containing programs that contain the elements of this guidance.

If you submit a program that does not contain the elements of this guidance for that type of program, EPA would still seek to determine whether the applicable CAA requirements were met, and, if so, EPA would approve the submission. The EPA would make this determination through notice-and-comment rule making.

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6.1 What enforcement elements must all trading EIPs contain?

You must incorporate certain enforcement elements into your trading EIP rule and your SIP submittal. These include provisions for assessing liability, provisions to assess penalties against participating sources, and provisions for sources with title V permits.

6.1(a) Provisions for assessing liability

You must include provisions for assessing liability in your EIP rule. Unlike traditional CAA regulatory mechanisms, emission trading involves more than one party. These parties can include those who own or operate the sources participating in the trade and sometimes another party who facilitated the trade (such as a broker). Parties may also have different liabilities depending on the specific type of trading EIP. These liabilities are discussed in the specific sections on each type of trading EIP in section 7.0. Parties using EIP emission reductions are required to possess the emission reductions prior to their use except for:

- CAIFs which substitute for existing requirements, or
- Multi-source emission cap and trade EIPs.

To ensure there is integrity in the trading system, parties are also normally responsible for ensuring the validity of the trades or their use of emission reductions. At a minimum, each party is responsible for the truth, accuracy, and recording of all the information it provides to make the trade happen. Your EIP rule should contain provisions to make users responsible for ensuring that they are obtaining valid emission reductions. Traded emissions reductions are valid if they:

- are true and accurate,
- generally meet all requirements of your EIP rule,
- are properly measured in keeping with the required quantification protocols,
- satisfy MRR requirements, and
- adhere to all other requirements for trading, such as no double counting.

Sources using traded emission reductions are the main parties EPA will hold liable for any violations of applicable emission limitations. However, to discourage any possible collusion between sources, generators, and third parties, EPA may also hold other parties liable under the following circumstances and conditions.

Generators

Generators are sources that reduce emissions beyond applicable emission limitations or other requirements, and subsequently trade those emission reductions. Any such source is liable for the truth and accuracy of statements regarding the actions taken to generate the excess emission reductions. Any source that cannot demonstrate the truth and accuracy of statements regarding claimed emission

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reduction actions is liable for an enforcement action under the CAA, and is subject to the penalty and corrective action provisions of your EIP.

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Third Parties

Any third party participating in an emission reduction transaction by verifying, quantifying, or certifying emission reductions - or any generator or user that undertakes these same functions - is not liable for an enforcement action regarding the validity of traded emission reductions used for compliance if it has properly applied one of the following:

- an EPA-approved quantification protocol to determine the quantity of tradable emission reductions created by a generator; or
- a quantification protocol not yet approved by the EPA that is later disapproved.

However, any third party - or generator or user - that purposefully claims a quantity of tradable emission reductions that is not defensible under the quantification protocol it has employed, is liable for an enforcement action under the CAA, and is subject to the penalty and corrective action provisions of your EIP for that transaction.

Users

There may be cases where a source uses traded emission reductions that are based on a quantification protocol not yet approved by the EPA. In such cases, if the protocol is later disapproved, the user is not liable for an enforcement action with respect to the validity of the reductions used for compliance. However, the user is liable for making up any emission reduction shortfall resulting from invalid traded emission reductions associated with the disapproved protocol.

In any enforcement action, the parties bear the burden of proof on each of their respective responsibilities.

Emission reductions and emission allowances generated, traded, and used in emission trading EIPs do not have property rights associated with them. They simply represent a limited authorization to emit for the entity holding the tradable reduction or allowance. Your EIP rule must specifically state this. Please see section 7.0 for liability provisions applicable to specific types of trading EIPs.

6.1(b) Penalty and corrective action provisions

The monetary and non-monetary penalty provisions in your emission trading EIP must include mechanisms that enable you to assess monetary penalties and impose corrective actions against the sources participating in the EIP. These mechanisms must include

- Making up any emission shortfall (e.g., purchase and surrender multiple emission reductions by the source that is "short").
- Pay a monetary penalty based on statutory penalties for source noncompliance.
- Surrender an additional punitive amount of emission reductions.
- Implementing corrective actions to ensure the violation will not occur in the future and to compensate for the environmental damage caused by an emissions violation such as:

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-- Better monitors.
-- More effective emissions controls.
-- More frequent monitoring and reporting.
-- Better monitoring procedures.

You need not assess any particular penalty in a particular situation, however you should follow the penalty policy described in section 5.1(c).

For emission trading EIPs, you must retain the authority to apply your penalty provisions up to CAA statutory maximum on a per-day and per-unit basis for the entire source compliance period (applies to each party in the transaction according to their specific obligations) as outlined in Section 5.1(c).

You can establish a special penalty policy which would assess penalties below the per-day maximum, on a tonnage basis. This penalty structure must assess penalties at some multiple, greater than one, of the cost of the tons of air emissions that were in violation. That is, if you determine that emission reductions cost $5,000 per ton, any violation involving a ton of emissions must be assessed, at a minimum, $10,000 or $15,000 in economic benefit, plus some gravity component as an additional deterrent. If you adopt a tonnage penalty policy the number of violations when calculating maximum potential Federal penalties is still calculated using the method defined in Section 5.1(c).

6.1(c) Provisions for sources with Title V permits

If your EIP covers sources with Title V operating permits your EIP must meet the requirements in section 16.8.

6.2 What provisions do I need in my trading EIP to address specific pollutant effects?

You may need to include certain provisions in your trading EIP to address the effects of specific pollutants. These provisions apply to your EIP as shown below:

- If you choose to include CO, SO_2, PM, or NO_X in your EIP, then provisions for localized increases in emissions of criteria pollutants in section 16.11 apply.
- If you choose to include VOCs in you EIP, then provisions for localized increases in HAPs in section 16.2 apply.
- If you choose to include ***inter-precursor trading*** in your EIP, then provisions for ozone inter-precursor trading in section 16.9 apply.
- If you choose to include VOC trading in your EIP, then provisions for VOC EIPs involving hazardous air pollutants in section 16.2 apply.

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6.3 What provisions do I need in my trading EIP to ensure it does not interfere with other programs?

You need to incorporate provisions in your trading EIP to ensure that it does not interfere with other programs. This section contains provisions on:

- transportation conformity,
- ***inter-credit trading***,
- RACT sources,
- NSR, and
- limitations on use of EIP emission reductions.

You must also ensure that your EIP does not interfere with your attainment plan and your RFP/ROP demonstration.

6.3(a) Provisions to ensure consistency with transportation conformity

If your EIP covers mobile sources then you must meet the requirements in section 16.10.

6.3(b) Provisions for inter-credit trading

Inter-credit trading is the acquisition and use of an emission reduction generated under one EIP to meet the requirements of another EIP. If your EIP includes intercredit trading your EIP must meet the provisions in section 16.12.

6.3(c) Provisions for EIPs that include RACT sources

If your trading EIP covers RACT sources, you must include provisions contained in section 16.13.

6.3(d) Provisions for new source review and trading

If you choose to allow emission reductions generated by your EIP to be used for NSR purposes ***(NSR offsets*** or ***NSR netting)*** then your EIP must meet the requirements in section 16.14.

6.3(e) Limitations on emission reduction uses

Your EIP must include certain limitations on the use of emission reductions to be consistent with provisions of the CAA and other existing EPA policies. Your EIP must not allow the use of:

- VOC emission reductions generated outside your non-attainment area, unless they meet the limitations in section 6.5(b), "Provisions for Geographic Trading Across Jurisdictional Boundaries ."

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- NO_X emission reductions generated outside your modeling domain, unless they meet the limitations in section 6.5(b).
- Emission reductions to meet NSPS, BACT, LAER, NSR offset requirements, title IV Acid Rain requirements, and any air toxic requirement under section 112 of the CAA, such as:
  - ***maximum achievable control technology (MACT)*** or NESHAP requirements.
  - requirements required under an urban air toxics program.
- Emission reductions to meet various statutorily-mandated mobile source requirements, including exhaust and evaporative emission standards for both highway and non-road vehicles and engines; Federal Reid Vapor Pressure (RVP), RFG, anti-dumping and detergent additive requirements, and federally-mandated inspection/maintenance (I/M) program requirements.
- Emission reductions to meet national VOC regulations under §183 of the CAA.
- Emission reductions for netting or other means to avoid major source NSR requirements, unless the emission reductions meet the requirements of the NSR program (see section 6.3(d) of this guidance).
- Emission reductions to meet the mobile source sulfur in fuel reduction Tier II program.
- Emission reductions to meet the municipal waste combustion rules except for some of the existing source ozone-related NO_X requirements if you have adopted your own municipal waste combustor (MWC) rule as described in the Code of Federal Regulations (CFR) at 40 CFR part 60 subpart C (b)).

6.3(f) Provisions for banking emission reductions

Some trading EIPs include provisions that allow sources to bank emission reductions. Emission reduction banking occurs when sources set aside emission reductions for use in a later time period. You may choose to allow sources participating in your EIP to bank emission reductions to achieve one or more of the following goals.

- Provide compliance flexibility to participating sources.
- Encourage early reductions.
- Encourage early application of innovative technology.

If you choose for your trading EIP to contain banking then the EIP must meet the requirements in section 16.15.

6.3(g) Provisions to ensure consistency with general conformity

If your EIP covers any nonattainment or maintenance area, you must ensure that general conformity requirements are met. General conformity regulations:

- are located at 40 CFR part 93.150-160, and 51.850-860,
- apply to most actions taken by Federal entities that increase emissions of criteria pollutant precursors above a de minimis level in a nonattainment area, and
- require the Federal entity to do a conformity determination that shows the action is consistent with the applicable SIP.

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The Federal entity can do this showing in several specific ways. The Federal entity must:

- demonstrate the emission increases are included in the SIP,
- procure emission reductions to offset their emission increases,
- procure emission reductions to mitigate their air quality impact,
- get you to include the emissions increase in your applicable inventory, or
- if there is no applicable SIP, demonstrate that the action will not
  -- create a new NAAQS violation, or
  -- increase the severity or frequency of current NAAQS violations.

A Federal entity can use emission reductions generated by an EIP to meet the offset or mitigation options described above if the general conformity requirements are met. The general conformity requirements will be contained in the revised general conformity rules that EPA will propose shortly. This EIP guidance will be revised as appropriate following promulgation of the general conformity rules.

6.4 What provisions do I need in my trading EIP to address uncertainty?

You may need to include provisions in your trading EIP to address uncertainty about the effect your EIP may have on future emissions. These effects must be addressed in order to ensure that at the programmatic level, your EIP complies with the fundamental elements of surplus and permanent. Emission banking and seasonal trading may impose some uncertainty about the effect your EIP might have on future emissions. This section describes some suggested methods for addressing uncertainty associated with banking and seasonal trading.

6.4(a) Minimizing uncertainty associated with an emissions bank

If you choose to include emissions banking in your EIP, you may conclude from your preliminary demonstration that future emissions associated with your EIP are highly likely to interfere with attaining or maintaining the NAAQS. To receive EPA approval of your EIP with banking and inter-temporal trading, you must include sufficient additional provisions to make it very unlikely that your EIP will interfere with attainment or maintenance of the NAAQS. These are discussed in section 16.15 of this guidance.

6.4(b) Minimizing uncertainty associated with seasonal trading

Your EIP must include provisions for addressing uncertainty when your EIP covers criteria pollutants that are of a seasonal nature (i.e., ozone and carbon monoxide). Your EIP must be designed to address uncertainty associated with seasonal trading programs, such as minimization through seasonal use restrictions.

If your EIP covers ozone precursors of VOCs and NO_X, you must not allow VOCs and NO_X emission reductions generated during the non-ozone season to be used during the ozone season. This restriction

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ensures that the system-wide balance of VOCs and NO_X emission reduction generation and use focuses on the time period when the ozone precursors are the most reactive.

If your EIP covers carbon monoxide (CO), any trading of carbon monoxide emission reductions should be consistent with local meteorological conditions, and with your state-specific control periods defined by other carbon monoxide control programs in your area, such as oxyfuels programs or wood burning control programs.

6.4(c) Addressing uncertainty in emissions measurement

You may wish to incorporate a wide range of sources in your trading program. A range of sources can lead to a program that produces:

- greater environmental benefit,
- greater opportunity for the development of innovative emission control strategies, and
- gains in economic efficiency.

In addition, you may be able to include sources or source categories that you are not able to regulate directly. This could lead to reductions from these sources that you could not otherwise achieve. For example, EPA believes that economic incentive programs, including trading programs, can achieve relatively cost-effective reductions from a number of mobile sources. Examples include retrofitting heavy duty vehicles and equipment, encouraging the use of newer and cleaner equipment and engines, demonstrating advanced technology, and encouraging the use of alternatively fueled vehicles and engines for the purpose of improving air quality.

When developing a trading program, however, you will need to consider the uncertainty in the techniques used to measure emissions from likely generators and users of emission reductions. If there is significant uncertainty in emissions measurement for a source generating emission reductions, a source using those reductions, or for both generator and user - the integrity of the trade could be questioned because the trade may not give a complete match of a unit of generation to a unit of use. Consider the following examples:

Reliable measurement of use/uncertain measurement of generation. A generator trades 10 tons of emission reductions to another source. Say that due to uncertainty, you think the actual emission reductions generated may be somewhere between 5 tons and 15 tons, but the user will forgo 10 tons of reductions with a high level of certainty. In this situation an equivalent trade may not be reached, because aggregate emissions could have either increased or decreased by 5 tons. This consideration is especially important in cap-and-trade programs, because they are based on an absolute level of emissions from a defined group of sources.

Uncertainty in measurements for both generation and use. A generator trades reductions quantified at 10 tons based on control measures that in fact reflect between 6 and 14 tons of emission reductions. These credits are then purchased by a user for whom the emission increases (or foregone reductions),

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quantified at 10 tons, in fact are between 6 and 14 tons. In this example, aggregate emissions could have either increased or decreased by up to 8 tons relative to emissions without the trade.

You must account for the uncertainty in quantification methods. Some ways you could do this are:

- Use conservative estimates of the benefits of the less proven or less certain strategies. In the first example above, that generator would only get credit for 5 tons of emission reductions. In the second example, the generator would get credit for 6 tons of emission reductions, and the user would be required to purchase 14 tons of credits.
- Include monitoring (or testing), recordkeeping, reporting and evaluation procedures which could better verify the actual emission reductions where quantification is less certain - if this is technically feasible and not cost prohibitive . (This will lead to more and better data, which will decrease the uncertainty of future programs.)
- Exclude certain sources or source categories from participating if their emissions cannot be adequately quantified.
- Limit trades to those between generators and users that have quantification methods with similar degrees of certainty.

6.5 What other provisions do I need in my trading EIP?

There are several other provisions that you must include in your trading EIP. These include demonstrating that your EIP provides an environmental benefit, provisions for geographic trading across boundaries, provisions for notifying the relevant FLM in a Class I area, accounting for emission reductions that occur prior to the approval of your EIP, and restricting use of AELs.

6.5(a) Demonstration of environmental benefit

As discussed earlier in section 5.1(a), all EIPs must provide an environmental benefit. If your trading EIP covers nonattainment areas that are NALD you must obtain an environmental benefit by reducing emission reductions generated by program participants by at least 10 percent for the benefit of the environment.

If your trading EIP does not cover NALD areas you have more options for meeting the environmental benefit requirement. You must demonstrate the environmental benefit of your emissions trading EIP by:

- showing greater or more rapid emission reductions due to trading (e.g., early reductions),
- reducing emission reductions generated by program participants by at least 10 percent or
- showing other environmental management improvements.

The appropriate demonstration of the environmental benefit depends on the design of your trading EIP. If your trading EIP does not cover NALD areas, the following provides more details on appropriate environmental benefit demonstrations by the major categories of trading EIPs.

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Benefit achieved through aggregate inventory limits (i.e., multi-source cap-and-trade EIPs)

Your multi-source cap-and-trade EIP achieves environmental benefit if the program meets all of the following conditions:

- Your EIP meets the criteria presented in section 7.4.
- Your EIP does not cover any areas that are needing and lacking attainment demonstrations.
- Your EIP is consistent with all attainment, maintenance, and progress plans.
- Your EIP requires all trading units within the cap-and-trade EIP to be accounted for in the cap.
- You are able to demonstrate that production does not shift from sources within the cap to sources outside the cap.
- You account for opt-in units added from your SIP. You may do this by adding the opt-in unit's emissions to the cap and then subtracting those emissions from the part of the SIP not covered under your EIP.
- Your EIP does not result in increased emissions or adverse effects within low-income and/or minority communities.

Multi-source cap-and-trade EIPs with a ***declining balance*** would most readily demonstrate environmental benefit. If your EIP is not designed with a declining balance, you may demonstrate an environmental benefit by showing that the cap sets an absolute limit on mass emissions which would otherwise have increased or would have increased at a greater rate.

Benefit achieved through more stringent rate based emission standards

You may demonstrate environmental benefit by showing that emissions trading allows your EIP to achieve greater or more rapid emission reductions than would otherwise have occurred by promulgating a rate-based limit that is more stringent than the one you could promulgate without trading. The environmental benefit is achieved directly through the estimated effect of the more stringent rate based emission standard on the inventory. The environmental benefit should be greater than or equal to the benefit achieved from an EIP implemented without a more stringent rate-based emission standards (such as described in the next paragraph), where the benefit is achieved solely by reducing emission reductions generated by program participants by 10 percent or more.

Benefit achieved through a reduction of 10-percent or more (e.g., programs designed for compliance flexibility)

The environmental benefit of your trading EIP is achieved by reducing emission reductions generated by program participants by at least 10 percent for the benefit of the environment.

Benefit achieved through environmental management improvements

Your trading EIP achieves an environmental benefit if it does not cover NALD areas, and accomplishes the following:

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- improved administrative mechanisms (for example, your EIP achieves emissions reductions from sources not readily controllable through traditional regulation),
- reduced administrative burdens on regulatory agencies that lead to increased environmental benefits through other regulatory programs,
- improved emissions inventories that enhance and lend increased certainty to State planning efforts,
- the adoption of emission caps which over time constrain or reduce growth-related emissions beyond traditional regulatory approaches.
- for multi-source cap and trade program or a single source cap and trade program, includes a declining cap.

6.5(b) Provisions for geographic trading across jurisdictional boundaries

This guidance does not provide additional geographic restrictions to trading if

- your EIP was submitted to comply with the NO_X budget trading program (in response to the NO_X SIP call) or
- only covers areas that are not NALD.

In these cases the geographic restrictions contained in the approved SIP apply to the EIP. The geographic trading provisions in the NO_X budget trading program or the approved SIP provide protection comparable to this guidance.

If the EIP covers nonattainment areas that are NALD then your EIP must include provisions that meet the requirements in section 16.16.

6.5(c) Provisions for FLM notification in Class I areas

If your trading EIP program allows sources located in or within 100 km of a Class I area to use emission reductions in lieu of making a reduction, then your EIP must meet the provisions contained in section 16.6.

6.5(d) Provisions for tracking systems and market clearinghouses

Both you and the sources participating in trading EIPs need to obtain accurate information about market activities related to trading emission reductions. Specifically, you need to obtain information that allows you to:

- Track generation and use of emission reductions.
- Ensure compliance.
- Target enforcement resources.
- Conduct periodic EIP performance audits.

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Sources need to obtain information to make decisions on participating in a trading EIP including:

- The availability of emission reductions.
- The demand for emission reductions.
- Prevailing market prices.

To meet these provisions you need to develop and operate a tracking system. You must also make this information readily available to the public. If your EIP covers sources in more than one State, you should coordinate the tracking system among all participating States. If you submitted your EIP to comply with the NO_X budget trading program (in response to the NO_X SIP call), and you will be participating in that EPA-administered trading program, you do not need to develop a tracking system under this guidance.

When establishing the tracking system for your trading EIP, you must consider including the following features.

- Unique tracking numbers assigned to each emission reduction (e.g., DER).
- Pollutants being reduced (if your EIP involves multiple pollutants).
- Requirements being met through trading (if your EIP allows various uses).
- Name and address of the source making the reduction, and a contact official.
- Name and address of the source using the reductions (and any third parties involved in the transaction), and a contact official.
- Identification of the specific emission reduction strategies.
- Identification of the specific unit using emission reductions for compliance.
- Time period of the emission reduction.
- Compliance dates of the emission reduction.
- Price paid for each ton of emission reduction purchased.
- Dates that all required notices, if any, were submitted.
- A requirement that required notices be attached to the operating permit.
- A requirement that required notices be made available to the public.

You may also develop and administer emission reduction banks and clearinghouses. If you choose not to do so, the private sector will most likely develop and administer them.

6.5(e) Provisions concerning multi-claimants

There are certain situations where ownership of an EIP emission reduction strategy could be claimed by more than one party. When these situations occur, you must ensure that ownership is claimed by only one party to avoid double counting of reductions. Some examples of this situation follow.

A paint manufacturer develops a new paint that emits less pollutants when it is applied to a surface. In this case:

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- The paint manufacturer could say it owns the reduction because it developed and produced the cleaner paint.
- All the intermediaries could claim they own the reductions because they choose to carry and sell/distribute the cleaner paint.
- The final user could claim it was the owner of the reduction because it chose to apply the cleaner paint.

A fuel manufacturer develops a cleaner emitting gasoline that a local government encourages people to use. In this case:

- The manufacturer may claim it owns the reductions because it developed and manufactured the fuel.
- The distributors may claim they own the reductions because they chose to carry and sell the cleaner fuel.
- The local government may claim it owns the reductions because it is spending money to promote the use of the cleaner gasoline.
- Fleet owners may claim they own the reduction because they choose to use cleaner fuel in their vehicles.
- The drivers who use the cleaner gasoline may claim they own the reductions because they choose to use the cleaner gasoline in their vehicle.

A non-attainment area wishes to reduce mobile source emissions by allowing private companies to construct and operate a toll road. In this case:

- The private company might claim the emission reductions because it constructed and operated the toll road.
- The MPO might claim the emission reductions because it authorized the construction of the toll road.
- Each user of the toll road might claim a share of the emission reductions because they pay the tolls which fund the construction and operation of the road.

For some strategies, the State will determine which party owns the reduction in the quantification protocol criteria documents when it approves a source-specific emission quantification protocol. Sometimes EPA determines who owns the emission reduction as part of an emissions measurement protocol. Your EIP must reflect these decisions. For other strategies you need to clarify who owns the reductions in these problematic situations. You may do this in several ways:

- Place a generic definition in your EIP that defines the owner of the reduction.
- Assign ownership to specific parties for specific known generation activities.
- Grant ownership to the first party that introduces the reduction into the trading program as defined in the EIP. For example, in an open market trading program, the first party to submit a "Certification of Generation" (as described in section 7.5(c)) for a particular strategy owns the DER.

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6.5(f) Provisions for emission reductions that occur prior to EIP approval

There may be sources that reduce emissions before you develop an EIP. Some generators may want these old emission reductions to participate in your trading EIP. You may not allow any emission reductions that result from emission reduction strategies that were started before November 30, 1990 (when the Clean Air Act Amendments of 1990 became law) to participate in your EIP.

You may choose to prohibit **all** emission reductions that occured prior to the adoption of your EIP from participation in your EIP because when a source reduces emissions before the existence of a trading EIP:

- these emission reductions occurred without an opportunity to trade, and
- the air quality has already benefitted from these emission reductions.

Therefore, in many situations, the overall benefit of making old reductions eligible for emissions trading is not apparent.

However, for a variety of valid reasons, you may wish to include old reductions in your trading EIP subject to the given safeguards described in section 16.17.

6.5(g) Provisions for Compliance Margins

Sources often operate with a ***compliance margin***. Your trading EIP must include provisions to account for compliance margins when sources participating in an EIP are initially complying with an emission limit.

A source uses a compliance margin to protect itself against non-compliance due to minor increases in emission rates from normal fluctuations in process operations or control equipment. The source achieves a compliance margin by intentionally emitting less than its allowable emission limit. In effect, the source is managing its operations to comply with a self-imposed emission limitation that is less than its allowable emission limit.

For example, take a source with an emission limit of 100 units (tons per month, lbs. per MMBtu, etc) and historical actual emissions of 90 units. Its normal operating procedures include a 10 percent compliance margin. A new requirement will limit the source's emissions to 80 units. The source plans to install emission control equipment and emit 70 units. If the source's compliance margin is not accounted for, the source could generate 10 units of emission reductions in an EIP. Based on the facility's historic practice of operating with a 10 percent compliance margin, you could assume that they would have operated at a level of 72 units in order to comply with a limit of 80 units. Accounting for this source's compliance margin means that the source will generate two units of emission reductions for an EIP, not 10 units.

Allowing a source to calculate emission reductions for an EIP without accounting for a compliance margin is acceptable when the source's historical actual emissions are lower than its allowable emissions

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and historical actual emissions are used to calculate emission reductions for an EIP (such as an OMT EIP). In such a case, the source's compliance margin is inherently included in the emission reduction calculation. When a source is applying a emission control strategy to initially comply with an emission limit, its compliance margin is unknown. In such a case, there is no historical actual emission information available for use when calculating emission reductions for an EIP, only the new allowable limit.

If the area covered by the EIP is not a nonattainment area ***needing and lacking a attainment demonstration (NALD)*** then no additional provisions are required if

- the relevant attainment or maintenance plan includes the emissions from compliance margins as actual emissions, and
- the relevant emission inventories include emissions from the compliance margins for all sources covered under the EIP.

If the area covered under the EIP is an area NALD, or if the items above are not met then the EIP must meet the special requirements for NALDs contained in 16.1.

6.5(h) Restricting Use of Alternative Emission Limits

Under traditional air quality management approaches, sources are required by regulation to meet emission limitations. In some cases, sources may find it difficult to meet these requirements by the required deadline. In such events, States have granted sources some form of relief (e.g., waivers, exemptions, compliance deadline extensions, and temporary relaxations to the regulatory requirements). These forms of relief are known as alternative emission limits, or AELs. While AELs may be necessary in limited cases, widespread use of AELs ultimately means that expected emission reductions will be delayed.

A benefit of trading EIPs is that they provide sources an alternative means for obtaining required emission reductions on time. This means that in many cases, sources will not need AELs as a means of regulatory relief. Therefore, your trading EIP must prohibit the use of new AELs after the date your EIP is adopted, unless a sources can demonstrate that it cannot purchase sufficient emission reductions elsewhere.

6.6 Are "emission reductions" the same as "emission reduction credits (ERCs)?"

The term "emission reduction credit", or ERC, has its origins in EPA's emission trading policy statement (51 Federal Register 43814, December 4, 1986). The statement defined ERCs as "the currency of trading." Over time, EPA has found that the term "ERC" has been used to mean various things:

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- mass of emissions per unit of industrial activity.
- mass of emissions per unit time.
- allowances (the amount a source is allowed to emit).

States that employ only one type of trading program may be able to use the term "ERC" with little confusion. However, for States using multiple types of program, the term "ERC" can - and has - led to much confusion. For this reason, EPA has made a conscious decision not to use the term "ERC" in this guidance. However, the basic concept of ERCs still remains in the description of "trading units" for some types of trading programs in Table 7.1, and in the discussions of emission reductions in the following sections:

- for emissions averaging programs, section 7.2(b).
- for source-specific cap programs, section 7.3(b).
- for multi-source emission cap-and-trade programs, section 7.4.
- for mobile source emission reduction credit programs, section 13.1(c).
- "Guidance on Voluntary Mobile Source Emission Reduction Programs, section 16.4.

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7.0 Elements of Specific Trading EIPs

As emphasized in section 1.9 of this guidance document, this document proposes key elements for EIPs. The EPA currently believes that a program containing these elements (which are phrased in the imperative - using the terms "must" or "shall") would assure that the program would meet the applicable CAA provisions.

Once you submit a SIP revision containing an EIP, EPA will take action through notice-and-comment rule making to determine if the statutory requirements have been met. Only action taken after the conclusion of that rulemaking would constitute final Agency action. The EPA would take steps to expedite its proposed approval in the case of SIP revisions containing programs that contain the elements of this guidance.

If you submit a program that does not contain the elements of this guidance for that type of program, EPA would still seek to determine whether the applicable CAA requirements were met, and, if so, EPA would approve the submission. The EPA would make this determination through notice-and-comment rule making.

7.1 How do I select the appropriate trading EIP?

A trading EIP is a program that involves at least two emission units. One emission unit with an emission reduction obligation uses emission reductions at different emission unit to meet these emission obligations. There are four main types of emission trading programs:

- Emission averaging.
- Source specific emission caps.
- Multi-source emission cap-and-trade.
- Open market trading.

Each type of emission trading EIP has its own characteristics. Some trading EIPs provide compliance flexibility, others provide programmatic emissions reductions, while others provide both. Table 7.1

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presents some important characteristics of the different trading EIPs. This table may help you decide which of the trading programs fits your needs the best. The remainder of section 8 presents additional information about each of the four main types of trading EIPs.

Table 7.1: Characteristics of Trading EIPs

	Trading Units	Main Purpose	Are Shutdown Reductions Surplus?	Most Common Generating Source Types	Most Common User Source Types	Generation Occurs Contemporaneously with Use?
Emission Averaging	Mass/activity level	Flexibility for a source to meet RACT	No	Units within major stationary sources	Units within major stationary sources	Yes
Source-specific Emission Caps	Mass/time	Provides flexibility for a defined set of sources while limiting emissions from those sources	Yes - at the State's discretion, and if the EIP meets certain conditions	Units within major stationary sources	Units within major stationary sources	Yes, unless allowance banking is allowed
Multi-source Emission Cap-and-trade	Mass or mass for each time period	A major component of an attainment strategy. Reduces/limits emissions while providing flexibility	Yes, at the State's discretion, and if the EIP meets certain conditions	Major stationary sources	Major stationary sources	Yes, unless allowance banking is allowed
Open Market Trading	Mass	Flexibility	No	Major stationary, area and mobile sources	Major stationary sources	No

When selecting which type of trading EIP you wish to develop, it is important to note the distinctions between a source-specific emission cap EIP and a multi-source emission cap-and-trade EIP. What all cap-based EIPs have in common is that, while these EIPs allow the shifting of tradable emission reductions between units, facilities or sources within the scope of the cap, the cap serves as the limit ensuring that, in the aggregate, the capped sources actually emit no more than the limit specified in the program cap. This is true for both source-specific and multi-source caps. In summary, the main differences are as follows.

A source-specific emission cap EIP:

- can cover only one or a few sources,
- can cover many sources
- always limits total emissions and provides compliance flexibility,
- sometimes provides programmatic emission reductions,
- may be set prior to determining the source's emission reduction requirements in an attainment plan,

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- substitutes rate-based emission limits with mass-based emission limits,
- sets a mass-based limit using the participating source's rate-based emission limit and some appropriate recent activity level,
- may allow banking of unused emission reductions, and
- can be implemented prior to your determination of the emission reductions required from the covered sources in your attainment demonstration.

A multi-source cap-and-trade EIP:

- must cover all or most sources in a category or group of sources,
- always provides a limit on total emissions, programmatic emission reductions, and compliance flexibility,
- is based on the reductions included in an approvable attainment of RFP/ROP plan,
- sets the mass-based limit for the entire category or group of sources.
- can allow banking of unused emission reductions for use in another compliance period, and
- must reflect the emission reductions you have determined are required from
  -- the budget in the NO_X SIP call (if you submitted your EIP to comply with that SIP call)
  -- the covered sources in your approvable attainment demonstration.

See sections 7.3 and 7.4 for information specific to these types of trading EIPs.

7.2 What other provisions do I need for my emission averaging EIP ?

Emission averaging EIPs are emission trading EIPs that provide a source or group of sources (typically stationary sources) flexibility in complying with a ***rate-based regulatory limit*** by averaging the rate of pollution it emits with another source. Because emission averaging EIPs typically involve stationary sources, the following section addresses provisions that apply primarily to stationary sources. You may wish to develop an emission averaging EIP for area or mobile sources. If this is the case, you should work closely with your EPA Regional Office to determine which portions of this section are applicable to your program.

Emission averaging EIPs involve emission units at one facility or, if not at the same facility, within the same State. Emission averaging enables a source emitting above its allowable emission rate limit to comply with that rate limit by averaging its emissions with a second source emitting below that second source's regulatory rate limit.

A rate-based regulatory limit is measured as mass of emissions per activity level. An emissions averaging EIP does not inherently control total emissions, because emissions may increase or decrease as activity levels at the participating sources fluctuate. For stationary sources, RACT is an example of a regulatory program usually set as a rate-based program (e.g., pounds of NO_X per MMBtu of heat input).

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7.2(a) Fundamental integrity elements

The terms *surplus, quantifiable, enforceable,* and *permanent* refer to the fundamental integrity elements that apply to emission reductions that qualify for inclusion in your emission averaging EIP. Section 4.0 presented the general definitions of the four fundamental elements as they apply to all EIPs. The specific application of the fundamental elements to emissions averaging EIPs is described below.

In emission averaging EIPs, the programmatic fundamental element of surplus, as used with reference to the EIP as a whole, has a special meaning. You must show that your EIP results in more reductions than would have occurred without the program.

In emission averaging EIPs, the source-specific fundamental elements of surplus, enforceable, quantifiable, and permanent, as used with reference to the actions of the individual sources participating in the EIP, have special meanings. Surplus means:

- The emission reductions are not prospectively relied upon in your air quality-related program requirements defined in section 4.2.
- They must be surplus at the time sources use them for compliance.
- Stationary-source shutdowns and production activity curtailments are not eligible as emission reductions.

Source-specific emission reductions are enforceable if each participating source's owner/operator is liable for emissions violations and the validity of emission reduction generation or use. Source-specific emission reductions are quantifiable if sources quantify their activity level and their emission rate per activity level. Source-specific emission reductions are permanent if the source's emission reductions lasts throughout the life of the program defined in the SIP.

7.2(b) Compliance provisions

To demonstrate compliance, the total actual emissions for all emitting units must be equal to or less than the total of allowable emissions for all emitting units participating in an emissions averaging EIP. The total allowable emissions for all emitting units in an emissions averaging EIP is the summation of the product of each units allowable emission rate and its activity rate over the averaging time period. The total actual emissions for all emitting units is the summation of the product of each unit's actual emission rate and its activity rate over the same period.

- The ***actual emission rate*** is defined as the emissions of a pollutant from an affected source determined by the measured emission rate and, where applicable, the measured production rate of the source during the relevant period.

- The ***allowable emission rate*** is defined as the lowest emission limit that applies to the emission unit.

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For EIPs in areas that are not NALDs the following illustrates the requirement described above in equation format.

$$(1\text{-}EB) * 3_{i=16n} (ER_i * AL_i) \$ 3_{i=16n} (ER_{act_i} * AL_i)$$

where:

EB = the environmental benefit adjustment (e.g., 0.1 for a compliance flexibility EIP where environmental benefit is demonstrated by an emissions reduction)
i = designation for each unit participating in the trade
n = total number of units
ER_i = the lower of
-- the lowest allowable emission rate that applies to unit i, or
-- the historical actual emission rate of unit i
AL_i = activity level for emissions unit i
ER_{act_i} = actual emission rate for emissions unit i

For EIP areas that are NALDs, see section 16.1 for the compliance equation that includes compliance margins.

7.2(c) Other provisions

Several additional provisions apply to emissions averaging EIPs. You must include the following requirements in your EIP:

- Emission reductions occur contemporaneously with use (i.e., emission reductions occur at the same time as they are used).
- The environmental benefit is demonstrated according to the requirements in section 6.5(a), either through program design or through the application of more stringent rate- based emission standards.
- Major stationary sources covered under an emissions averaging EIP must have a title V operating permit that:
  - -- limits a source's emissions to the capped amount decreased by emission reductions transferred to other sources and increased by emission reductions received from other sources,
  - -- contains references to relevant emission quantification protocols, and
  - -- defines which other sources the source can obtain emissions from.
- The number of violations of an EIP rule determines the level of potential penalties. The number of violations is calculated by the multiplying (a) the number of days the actual emissions are higher than the allowable emissions after any adjustments by (b) the number of emission units covered under the emissions averaging EIP.
- More than one plant may participate in an emissions averaging EIP so long as all participating emission units are owned by the same firm, located in the same State, and included under the same attainment demonstration and ***RFP plan***.

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- If you allow emission strategy banking, your EIP must meet the requirements in section 6.3(f).

7.3 What additional provisions do I need for my source-specific emission cap EIP?

A ***source-specific emissions cap***[9] is an emission trading EIP that allows a specified stationary source or a limited group of sources that are subject to a rate-based emission limit to meet that requirement by accepting a mass-based emission limit, or cap, rather than complying directly with a rate-based limit. In this manner, source-specific emissions cap EIPs limit total emissions and provide compliance flexibility. The emission limit for a source-specific emission cap is measured in mass or weight per unit of time during the compliance period (e.g., pounds of VOC per day, tons of NO_X per ozone season). If you are considering applying an emission cap to a large group of sources, you should consider developing a multi-source emission cap-and-trade EIP as described in section 7.4. Refer to section 7.1 for a comparison of the two types of emission cap EIPs.

Generally, a source-specific cap applies to a single facility, but could also apply to more than one facility with more than one owner so long as the geographic limitations contained in section 6.5(b) are met. Source-specific emission caps usually apply to stationary sources, but may include area and mobile sources that are located at the same facility as the participating stationary source. If your source-specific emission cap covers VOC emissions, the HAP provisions outlined in sections 5.1(b), 6.2(b) and 16.2 will apply. If you wish to apply source-specific caps to individual emission units at a facility, you should work closely with your EPA Regional Office to ensure that the cap is designed in a way that accounts for potential shifting of production and emissions to uncapped units at the same facility.

In addition, the EPA does not recommend allowing sources covered by source-specific emission caps to comply with their cap by shifting unused reductions from one compliance period to another. If you wish to include banking features, you should refer to sections 6.3(f) and 6.4, as well as work closely with your EPA Regional Office to ensure that your EIP is designed in a way that accounts for the uncertainty associated with using emission reductions generated during a previous compliance period.

7.3(a) Fundamental integrity elements

The terms *surplus, quantifiable, enforceable,* and *permanent* refer to the fundamental integrity elements that apply to emission reductions that qualify for inclusion in your source-specific emission cap EIP. Section 4.0 presented the general definitions of the four fundamental elements as they apply to all EIPs. The specific application of the fundamental elements to source-specific emission cap EIPs is described below.

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[9]For the purpose of simplicity, the EPA refers to these EIPs as source-specific caps, although they are not necessarily limited to one source.

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In source-specific emission cap EIPs, the programmatic fundamental element of surplus, as used with reference to the EIP as a whole, has a special meaning. If the goal of your EIP is to achieve programmatic emission reductions, you must show that your EIP has resulted in more reductions than would have occurred without the program.

In source-specific emission cap EIPs, the source-specific fundamental elements of surplus, enforceable, and quantifiable, as used with reference to the actions of the individual sources participating in the EIP, have special meanings. To meet the source-specific requirements for surplus:

- The reductions are not prospectively relied upon in your air quality-related programs requirements as defined in section 4.2.
- The reductions are not generated through compliance with any requirement of the CAA.
- The reductions resulting from shutdowns and curtailments are surplus only if the shutdown or curtailed source is included in the source-specific cap program.
- The source must be included in the prospective inventory at its capped emissions level.

Source-specific emission reductions are enforceable if each source owner/operator is liable for meeting its emission limit as it is modified through trading and for the validity of the emission reductions it obtains or transfers. Source-specific emission reductions are quantifiable if sources quantify total emissions per unit of time.

7.3(b) Compliance provisions

Sources with source-specific caps demonstrate compliance when their actual mass emissions are less than or equal to their cap. A source with a cap may not emit more than the amount specified in the cap. Emission reductions from another EIP outside the cap may not be used as emission reductions for the source or sources in the source-specific cap. If your EIP does not cover NALD areas then the following illustrates the requirement described above in equation format:

$$\text{Actual emissions} \# (1\text{-EB}) * 3_{i=16n} (ER_i * AL_i)$$

where:

EB = the environmental benefit adjustment (e.g., 0.1 for a compliance flexibility EIP where environmental benefit is demonstrated as an emissions reduction)
i = designation for each unit participating in the source-specific cap
n = total number of units
ER_i = the lower of
-- the lowest allowable emission rate that applies to unit i, or
-- the historical actual emission rate of unit i
AL_i = activity level for emissions unit i, usually set at a historical level.

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In addition, you may need to apply other adjustment factors when calculating the amount of emission reductions generated or used. These are discussed in further detail under the heading "Adjustments to banked emission reductions" in section 16.15.

For EIPs that cover NALD areas, use the compliance equation in section 16.1.

7.3(c) Provisions to address shifting demand

Shifting of activity levels is a potentially serious problem for all source-specific cap programs. A source in a cap could decide to shift production to a source outside the cap within the same non-attainment area. An example of this would be a metal fabrication facility which planned on phasing out or contracting out the coating aspect of its production but still had other emitting processes which remained, such as degreasing. The facility could take a source-specific cap based on full operation and when required to lower its degreasing emissions, the facility could contract out its coating and forego the emissions reductions from controlling its degreasers. The facility taking on the contract could increase its emissions (increased utilization of existing capacity) without regulatory impact. The presumed emissions cap or reductions at the metal fabrication facility are defeated by shifting production to a source outside the cap.

A similar situation could occur with the shutdown of a source. For example, an auto body shop within a source-specific cap could close down. Although the demand from that shop would shift to other auto body shops in the area, the shop which closed may seek to claim emission reductions. The end result would be that emission reductions do not truly occur, but are simply shifted outside the cap.

When you decide which sources or parts of sources to include in a source-specific cap you must determine the potential for shifting activity from sources in the cap to sources not in the cap. This can be a problem within one plant or between plants. To avoid this problem you must:

- Show that all the sources providing a product are included in the cap and no sources outside the cap can pick up production from the capped source (for example, you include all steel mill or automobile manufacturing facilities in the air basin and show that none of the processes done in these plants could be done by sources outside the cap), or
- Include a mechanism that reduces the cap by the amount of emission reductions resulting from shifting production or activities to sources outside the cap.

If the emission reduction is generated by a source owned by one person and the user is owned by another person then:

- Each user source is liable for
  - -- the sum of its emissions plus reductions obtained from other sources not exceeding its source-specific cap
  - -- the validity of the reductions it uses
- Each generator source is liable for emitting less than its source-specific cap as reduced by the amount it has transferred to other sources

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7.3(d) Other provisions

Several additional provisions apply to source-specific emission cap EIPs. In addition to including the provisions contained in sections 5.0 and 6.0, you must include the following provisions in your EIP.

- Major stationary sources must have a title V operating permit that:
  - -- limits a source's emissions to the capped amount decreased by emission reductions transferred to other sources and increased by emissions received from other sources,
  - -- contains references to relevant emission quantification protocols, and
  - -- defines from which other sources the source can obtain emissions.
- A source's emission limit is expressed as a given amount, plus any valid emission reductions it obtains from other sources, minus any valid emission reductions it sells or gives to other sources. Emission reductions are valid if they meet all requirements of your EIP rule, including determinations that geographic and use restrictions are met.
- The emission reductions are surplus.
- The emission reduction has not been used by another party.
- If you allow emission reduction banking, your EIP must meet the requirements of 6.3(f).
- The number of violations is the product of the number of days the cap is violated and the number of emission units covered under the cap.
- If the emission reduction is generated by a source owned by one person and the user is owned by another person then:
  - -- each user source is liable for the sum of its emissions and reductions obtained from other sources not exceeding its source-specific cap, and the validity of the reductions it uses; and
  - -- each generator source is liable for emitting less than its source-specific cap as reduced by the amount it has transferred to other sources.
- Sources covered by a source-specific cap may only use emission reductions generated by shutdowns of sources included in the cap to satisfy their requirements if:
  - -- the emissions reductions resulting from the shutdown are still in the applicable emissions inventory.
  - -- the EIP has provisions to address shifting demand described in section 7.3(c).

After the cap is in place, you must adjust the cap to reflect lower emissions if a capped source reduces its emissions of the criteria pollutant covered by the source-specific cap EIP in order to:

- meet another CAA requirement such as BACT, LAER or NSPS,
- meet another State requirement for that same criteria pollutant, or
- or sell NSR offsets to a source not covered by the EIP cap.

You may allow sources not originally included in the source-specific cap program to opt into a source-specific cap. These opt-in sources can generate reductions from shutdowns if:

- the opt in source has been in the program for at least 2 years
- the amount of reductions resulting from the shutdown is limited to 1 year at historical emission levels.

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- the emissions resulting from the shutdown are still contained in the applicable emissions inventory.

You should set the mass-based limit by multiplying the applicable allowable emission rate limit by a pre-defined activity level. If the source-specific cap applies to more than one unit, the limit is the sum of the mass-based limits for each emission unit. For stationary and area sources, you should base the cap on the ***historical activity level*** of the source. You may impose lower allowable emissions rates to meet the requirements for demonstrating an appropriate environmental benefit as described in section 6.5(a). If your nonattainment area is NALD, you may want to define the allowable emission rate as the lower of the lowest emission limit that applies to the emission unit or the historical emission rate to ensure that your EIP does not interfere with attaining a NAAQS.

Finally, source-specific caps can function as plantwide applicability limits (PALs) under the New Source Review program if they address the requirements discussed in section 16.14 of this guidance.

7.4 What additional provisions do I need for my multi-source emission cap-and-trade EIP?

A multi-source emission cap-and-trade EIP is an emission trading EIP that:

- limits the total emissions from a certain category or group of sources to a level needed for an area to attain or maintain a NAAQS, and
- allows sources flexibility in complying with their emission limits.

In addition to the provisions in sections 5.0 and 6.0, your multi-source cap-and-trade EIP must also include the provisions of this section.

When designing a multi-source emission cap-and-trade EIP, your initial task is to determine the overall emission budget for the entire group of sources. This is the amount of emissions the covered sources can emit within an approved or approvable attainment demonstration. If you develop an EIP that includes caps in an NALD area or otherwise does not meet the criteria for a cap-and-trade program, the EPA will be able to approve your EIP if it meets the requirements for source-specific caps in section 7.3.

The amount of the emission budget assigned to each source (commonly called an ***emission allocation***) is measured in mass per unit time (e.g., tons of NO_X per ozone season). The purpose of a multi-source emission cap-and-trade EIP is to lower emissions from sources in a cost-effective manner as part of an attainment plan. Therefore, NALD areas should not choose to have this type of EIP unless it is developed as part of an attainment plan.

A multi-source emission cap-and-trade EIP provides compliance flexibility because each covered source has four compliance options:

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- Emit at its allowance allocation.
- Emit less than its allocated allowance and transfer extra allowances to other sources.
- Emit less than its allocated allowance and (if allowed) save unused allowances for a later compliance period.
- Obtain allowances from other sources and emit more than its allocation.

You should divide each source's allocation into small units representing a unit of emissions to facilitate tracking and accounting of compliance and emission allowance trading. For example, if a source is allocated 50 tons of NO_X for each ozone season, you could designate that the source has fifty allowances. Each allowance would be equal to 1 ton of NO_X for each ozone season.

When is a multi-source emission cap-and-trade EIP appropriate?

Multi-source cap-and-trade EIPs may achieve emission reduction targets with greater certainty than many other EIPs because:

- Total emissions are limited to a pre-determined amount.
- All the sources in the program account for all their emissions.

The emissions accounting is done through accurate measurement, quality assurance, standard MRR procedures, quantification protocols, and auditing. Total emissions are limited through the issuance of a fixed number of allowances, that is, authorizations to emit, and the requirement that each source hold allowances at least equal to the source's emissions during the control season.

Multi-source cap-and-trade EIPs also encourage increased cost savings by providing a market infrastructure and a simple transaction process that allows sources to have confidence in the market and certainty about the benefits of their control decisions. After every control period, the program administrator simply compares each source's emissions to its allowances. Further, all allowances are issued by the government, i.e., pre-certified. Consequently, the liability for any emissions above allowances held is placed on the owners and operators of the source with the emissions excursion rather than the parties with which any allowances were traded.

Trading without banking restrictions or geographic restrictions may be appropriate under a cap-and-trade EIP because the integrity of the emissions limit has been ensured through the design of the program as well as the emissions monitoring of the sources involved in the program. If you find that you need to impose additional restrictions on the EIP, then it is probably not appropriate to use a multi-source cap-and-trade EIP as the control mechanism in your situation.

The following lists presents several conditions your EIP must meet to ensure the integrity of the emission cap:

- Sources must have the ability to measure and report all capped emissions.

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- The multi-source cap-and-trade EIP must require capped sources to use the best available monitoring techniques for the source category, process or control technology so that sources cannot report emissions measured using a less accurate method. This addresses the potential for sources to report a lower level of emissions using the less accurate approach and exceed the allowed cap with no enforcement consequences.
- Each affected source must designate a representative who is responsible for the source's emissions and allowances. Ultimate liability for any emissions violation rests on the owners or operators of the source with the violation.
- You must demonstrate in your SIP submittal that sources cannot shift a significant amount of production, and therefore emissions, from affected sources included in your EIP to non-affected sources. For example, opt-in sources may not opt into the program and achieve reductions by shifting production to units that are outside the cap. In addition, if sources are targeted for reduction requirements under the cap, they may not opt-out and potentially increase emissions (see the discussion of shifting demand in section 7.4(h) of this guidance.)
- Penalties for non-compliance must be known in advance, must be automatic when a unit's emissions in the control period exceed its allowances, and must be equivalent to traditional CAA penalties.
- All the emissions, allowance, and transaction information must be publicly available on a secure, centralized database as described in section 6.5(d).
- If your multi-source cap-and-trade program covers sources with RACT requirements, your EIP rule must address the overlay of multi-source cap-and-trade EIPs onto sources with RACT limits.
- Your EIP rule must contain provisions for addressing increased localized emissions of HAPs as described in sections 5.1(b), 6.2 and 16.2.

If these criteria are satisfied, the simple transaction and reconciliation processes, as well as the liability structure that characterize multi-source cap-and-trade EIPs may be appropriate. If these criteria are not satisfied and program administrators and the public have reason to doubt the integrity of the cap, then a multi-source cap-and-trade EIP may not be appropriate.

7.4(a) Fundamental integrity elements

The terms *surplus, quantifiable, enforceable,* and *permanent* refer to the fundamental integrity elements that apply to emission reductions that qualify for inclusion in your multi-source cap-and-trade EIP. Section 4.0 presented the general definitions of the four fundamental elements as they apply to all EIPs. The specific application of the fundamental elements to multi-source emission cap-and-trade EIPs is described below.

In multi-source emission cap-and-trade EIPs, the programmatic fundamental element of surplus, as used with reference to the EIP as a whole, has a special meaning. You must show that the cap on all emissions is below the threshold that would have otherwise been set for the affected sources.

In multi-source emission cap-and-trade EIPs, the source-specific fundamental elements of enforceable, and quantifiable, as used with reference to the actions of the individual sources participating in the EIP,

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have special meanings. Source-specific actions are enforceable if each source owner/operator is responsible for owning enough allowances to cover its emissions for the given time period and for providing clear title to the allowances it transfers. Source-specific actions are quantifiable if sources quantify total emissions per unit of time. Note that the fundamental elements of surplus and permanent do not apply to sources participating in multi-source emission cap-and-trade EIPs, only to the programmatic emission reductions.

7.4(b) Setting the emission budget

To determine the amount of the emission budget, you must use emission projections and air quality models. First, determine the total amount of a certain pollutant that an area can tolerate and still achieve the NAAQS and meet ROP and other applicable requirements. Then decide how much of this total budget will be allocated to the sources covered under your EIP. This decision is based on:

- The percentage of historical, current, or projected emissions coming from the covered sources.
- The effect of the covered sources' emissions on the area's air quality.
- The availability of emission reduction measures for the covered sources.
- The amount of emission reductions from covered sources already included in your air quality plan.
- The capacity of the air basin for carrying the emissions coming from the affected sources.

You may also vary the emission budget over time to gradually impose stricter emission requirements on an area.

Whether the goal of your emissions reduction program is capping emissions, or achieving programmatic emission reductions, setting an appropriate program baseline is essential to meeting that goal. A correct and accurate program baseline is particularly critical for cap-and-trade programs. The proper program baseline in a cap-and-trade program is the sum of historical actual emissions from participating sources, prior to implementation of the cap-and-trade program. It is used as a point of reference to evaluate the performance of the EIP and to evaluate how the EIP impacts attainment and meets ROP and other applicable requirements.

- If your program baseline is set at a higher emission level than the sum of historical actual emissions for the participating sources, and the higher level is used as the basis for establishing the initial budget the results may be a program budget that is too high. This inflated initial budget could result in excess emissions because too many allowances would be distributed. This would result in a program that does not achieve intended emission reductions, compromising the program's integrity and effectiveness.
- If your cap-and-trade program allows banking, the problem with the inflated budget would be intensified, because the excess allowances could be preserved indefinitely. The end result could be higher emissions at the time these allowances are used.

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Therefore, to ensure that your program achieves the intended benefits, you must show that the program baseline for your cap-and-trade program is no greater than the sum of the historical average emissions of the participating sources.

Depending on the goals of your program, you will establish a budget which declines over time, stays the same, or increases at a lower rate than would otherwise occur. You may also use any of a variety of approaches for distributing the budget to individual sources through the allocation process. However, some of these approaches have the potential to allow more emissions than the intended budget. If this is the case, and if you find you have calculated too many allowances, you should employ a ratchet that adjusts each source's allocation so that the total allocations issued does not exceed the budget.

7.4(c) Defining the affected sources

When you adopt a multi-source emission cap-and-trade EIP for a certain set of sources, the aggregate emissions from these sources are capped. Factors to consider when defining the group of affected sources include:

- Contribution to total emissions from each source within a given source category.
- The ease with which production from covered sources may be shifted to uncovered sources.
- The contribution of the covered sources to an area's air quality problem.
- The ability to replicably and reliably measure emissions from the source.

The emission cap aspect of a multi-source emission cap-and-trade EIP will be compromised; however, if a State defines the population of sources in a way that allows production from sources covered under the EIP to shift to those that are not covered.

After the cap is in place, your EIP must require that sources surrender allowances to you if a capped source reduces its emissions of the criteria pollutant covered by the multi-source cap-and-trade EIP in order to:

- meet another CAA requirement such as BACT, LAER or NSPS,
- meet another State requirement for that same criteria pollutant, or
- or sell NSR offsets to a source not covered by the EIP cap.

7.4(d) Provisions for opt-in sources

You may want to allow additional sources to "opt-in" to your multi-source cap-and-trade EIP. These additional sources could be smaller, located in a different geographic area, or represent another sector than the originally defined affected sources. If you allow sources to opt-in to a cap-and-trade EIP, you must meet the requirements in section 16.18. If you submitted an EIP to comply with the NO_X Budget Trading Rule in response to the NO_X SIP call, the provisions in section 16.18 do not apply.

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7.4(e) Distributing allowances

After you set the emission budget, you need to define the population of covered sources that must receive a share of the emission budget. You may assign a share of the budget by using some or all of the following factors:

- Fuel consumption (heat input) as a basis for emission allowance allocations.
- Historical, current or projected emission levels.
- Historical, current or projected production levels.
- Availability of control measures.
- Recession effects on production levels.
- Existing control technology requirements.

After determining the method you will use for distributing the allowances and calculating the source's initial allocations, you should compare the total allocations issued with the size of the budget. If in estimating each source's baseline that was used to calculate allocations, you issued too many or too few allowances, you should employ a ratchet that adjusts each source's allocation proportionately so that the total allocations matches the number of allowances you want to issue for a given control period.

When you allocate allowances, you must decide whether to do so only at the beginning of the program or at periodic times during the program. You could give out all allowances when the program begins, or you could give allowances for the first several years of a program. If you give out allowances for the first couple of years, you could vary the amount of available emission allowance allocations under any allocation timing provisions, including permanent allocations, multiple year allocations, or annual allocations, to reflect the need for more (or fewer) emission reductions indicated by current air pollution monitoring. Alternatively, you may distribute some or all of the emission budget through an auction. If all allowances are distributed through an auction, then a source must buy all the allowances it intends to use.

You may also decide to establish an allocation set aside account for new sources entering into your program. This account would hold a set percentage of the overall trading budget to cover growth which occurs between allowance allocations. The new source set aside account would provide new units with the allowance to cover their emissions during each compliance period. The new sources would be provided with these allowances until the time when the new sources receive allowances as part of your allocation program.

7.4(f) Allowing emissions banking

Many multi-source cap-and-trade EIPs require that sources use allowances during one specific compliance period (e.g., 2000 ozone season). If you decide to allow banking of allowances for later use, your EIP must include the provisions that apply to all trading EIPs with banking in sections 6.3(f) and 6.4.

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7.4(g) Setting up tracking mechanisms

To facilitate a full and open trading of allowances, you must have an efficient, effective method to track and record allowance transfers, including:

- A way to uniquely identify each allowance.
- A well defined ***responsible party*** to submit data.
- A secure data managing system that allows for frequent updates.
- An enforceable procedure for recording data.
- An enforceable time frame for submitting information and balancing accounts.

7.4(h) Other provisions

Compliance provisions

You must be able to enforce against a source for any of the following reasons:

- Not holding sufficient allowances.
- Submitting incomplete or inaccurate data.
- Not collecting correct and complete data to support its emission calculations.

You must retain the right to levy the monetary penalties specified in the CAA. You may also add market-based penalties. For example, you could require triple allowances as a penalty for any shortfall. If you show equivalence with traditional CAA penalties and an equivalent disincentive to violate the emission limits, you may replace the CAA penalty structure (dollars per day per violation) by defining a certain amount of excess emissions as equal to the statutory dollar amount. If you want to explore these alternative penalty structures, please work closely with your EPA Regional Office.

FLM notification requirements

If you have a multi-source emission cap-and-trade EIP that covers sources in or within 100 kilometers you have three choices for meeting this FLM notification requirement which are described in section 16.16.

Allowing shutdowns to generate reductions

You may allow shutdowns to generate emission reductions within the context of a multi-source cap-and-trade program if:

- the emissions reductions resulting from the shutdown are still in the applicable emissions inventory;
- your EIP has provisions to address shifting demand described below.

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Provisions to address shifting demand

Shifting of activity levels is a potentially serious problem for all multi-source cap-and-trade EIPs. A source in a cap could decide to shift production to a source outside the cap within the same non-attainment area.

When you decide which sources or parts of sources to include in a multi-source cap-and-trade EIP, you must determine the potential for shifting activity from sources in the cap to sources not in the cap. This can be a problem within one plant or between plants. To avoid this problem you must:

- Show that all the sources providing a product are included in the cap and no sources outside the cap can pick up production from the capped source (for example, you include all steel mill or automobile manufacturing facilities in the air basin and show that none of the processes done in these plants could be done by sources outside the cap), or
- Include a mechanism that reduces the cap by the amount of emission reductions resulting from shifting production or activities to sources outside the cap, or
- Otherwise show that shifting demand is unlikely to occur, due to the nature of your EIP, and the sources in the surrounding area.

If your EIP is submitted to comply with the NO_X Budget Trading Rule in response to the NO_X SIP call, it should already have sufficient provisions to address shifting demand and you do not need to incorporate provisions for shifting activity.

Provisions to allow a true-up period

Within the context of a multi-source emission cap-and-trade EIP you may allow a source to obtain emission allocations after the end of the compliance period. The time between the end of the compliance period and when the source must demonstrate compliance is called the true-up period. For example, if the compliance period were an ozone season you could allow sources to obtain allowances to cover their emissions that occurred during the ozone season, *after* the end of the ozone season. A true-up period allows more flexibility than requiring sources to possess emission reductions before they use them.

The length of a true-up period should be based on the length of the compliance period. In general, for a compliance periods of several months up to a year the true-up period should not be more than 60 days. For shorter compliance periods the true-up period should be shorter than 60 days.

7.5 What additional provisions do I need for my open-market trading EIP?

Open-market trading (OMT) is an emission trading EIP that gives sources flexibility in complying with emission limits required in your SIP. The OMT EIPs allow sources to use emission reductions created through discrete actions taken in the past to meet current or future emission reduction requirements.

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Sources often participate in OMT EIPs to comply with RACT. An OMT EIP does not necessarily limit or reduce emissions; therefore, you must be careful to ensure that the implementation of an OMT EIP will not jeopardize the attainment and maintenance plan. The OMT transactions require two parties: a generator and a user. The tradable emission reduction unit in an OMT EIP is a DER, which is measured in tons. When designing and implementing your OMT EIP, you should pay particular attention to the uncertainties associated with inter-temporal trading discussed in section 6.4.

7.5(a) Fundamental integrity elements

The terms *surplus, quantifiable, enforceable,* and *permanent* refer to the fundamental integrity elements that apply to emission reductions that qualify for inclusion in your OMT EIP. Section 4.0 presented the general definitions of the four fundamental elements as they apply to all EIPs. The specific application of the fundamental elements to OMT EIPs is described below.

In OMT EIPs, the programmatic fundamental element of surplus, as used with reference to the EIP as a whole, does not apply since OMT EIPs generally do not achieve program-wide emission reductions.

In OMT EIPs, the source-specific fundamental elements of surplus, enforceable, and quantifiable, as used with reference to the actions of the individual sources participating in the EIP, have special meanings as follows:

- The source-specific fundamental element of surplus applies to the generation of DERs based on the lower of their allowable or historical actual emissions. Reductions generated by participating in the Acid Rain NO_X or SO_x reduction program (Phase I or II) or by complying with any requirement of the CAA are not surplus.
- Source-specific emission reductions are enforceable if, in addition to the general definition:
  - -- Owners/Operators of sources generating DERs are liable for:
    - the truth and accuracy of statements regarding the actions they took to generate DERs, and
    - meeting their emission limits.
  - -- Owners/Operators of sources using DERs:
    - ensure the validity of DER generation and use, and
    - are liable for meeting their emission limits.
  - -- Third parties that verify, quantify, or certify DERs (or generators and users that do the same):
    - ensure proper application of emission quantification protocols, and
    - are liable for purposefully claiming a quantity DERs that are not defensible under the protocol they have used..
- Source-specific emission reductions are quantifiable if:
  - -- sources quantify their activity level and their historical, actual, and allowable emission rates per activity level,
  - -- DER generators quantify their emissions before and during EIP implementation, and
  - -- DER users quantify the amount of DERs they will need to cover their total emissions during EIP implementation.

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7.5(b) Additional provisions that you must include in your OMT EIP

You must include the following provisions in your OMT EIP:

- Each reduction must receive a unique identification number.
- All DERs must be generated before use.
- A source must obtain a specific DER before the source uses it.
- Banked DERs must meet the requirements in 6.3(f).
- If a source wishes to use DERs to meet its NSR offset requirements it must:
  - -- Meet all other DER requirements.
  - -- Meet the geographic limitations and other criteria contained in section 173 of the CAA.
  - -- Obtain sufficient DERs for at least 1 year of operation before receiving its permit.
  - -- Commit in its NSR permit to obtain sufficient additional DERs to cover each subsequent year of operation by December 31 of the previous year. This means that DERs used for NSR offsets must be obtained in advance of the year for which they will be used.
  - -- Ensure that the emissions reductions used as DERs are not otherwise required by the CAA.
- If you wish to allow DERs to be used for NSR offsets, you must:
  - -- Include appropriate contingency measures in your EIP SIP submittal which would take effect in the event that a source does not obtain sufficient DERs on schedule.
  - -- Monitor that usage as part of the OMT EIP audit requirements.

A stationary or area source may not generate DERs through shutdowns and production activity curtailments, or any emission reduction required to comply with any of the following:

- Any air toxic requirement under section 112 of the CAA, such as:
  - -- MACT or NESHAP requirements.
  - -- Requirements of an urban air toxics program.
- NO_X and SO_2 reduction programs under title IV of the CAA.
- The NO_X budget trading program under 40 CFR part 96 or 97.
- Other emission reductions required in the SIP to meet any NAAQS.

Shutdowns and activity curtailments cannot generate DERs in OMT EIPs because:

- OMT EIPs are intended to encourage innovative and creative emission reductions and shutdowns do not fit this objective, and
- Other types of trading programs (source-specific emission cap and multi-source cap-and-trade programs) may allow shutdowns to generate emission reductions.

Some mobile source strategies that achieve a lower activity level, but are not defined as shutdowns, may also generate DERs. These include early vehicle or equipment retirement programs, and programs which reduce vehicle miles traveled. For these programs, you should follow specific mobile source emission measurement guidance, which describes how to calculate emission reductions for various mobile source emission control strategies. Refer to sections 14 and 15 for information on these specific

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guidance documents. If you are unsure about which guidance you should use, contact your EPA Regional Office.

In addition to the provisions required in 5.1(c), your EIP must specifically include the following list of items among activities for which penalties may be assessed:

- Lack or inaccuracy of supporting information for all notices and certifications.
- Lack or inaccuracy of the notices and certifications.
- Lack of sufficient DERs to cover a DER user's need (the number of violations is the product of the number of days a user source does not have sufficient DERs to show source compliance and the number of emission units using DERs for source compliance).
- Lack or inaccuracy of adequate record keeping.
- Use of inadequate emission quantification protocols.

In general, only DERs generated after the date the State adopted the rule are eligible to be used in an OMT EIP. You may allow earlier emission reductions to be traded in an OMT EIP if the trade is a source-specific SIP revision. For trades that are not source-specific SIP revisions, you must:

- Require that earlier DERs be registered by the State prior to use.
- Require all such DERs to be submitted for registration within one year after adopting your EIP.
- You include the emissions from these DERs in all your attainment, maintenance and RFP/ROP plans.

You must estimate the annual (or seasonal) rate of use for all unused DERs in current and prospective inventories for the base year and future years. The treatment of the emissions in the base year should reflect whether the emissions were actually in the air, while future years should show them as in the air regardless. Since these inventories are used for modeling purposes, all DERs must have a geographic location. The EPA suggests that you assign DER emissions to the account of the generator source until the DER is transferred to another source. Then that source is assigned the DER emissions until the DER is transferred to a third source. If a DER is transferred to a party that is not a source (e.g., an agent who facilitates trades), the DER remains in the account for the source who transferred it to the agent until another source has possession of the DER. If you wish to use a different method to assign locations of DER emissions, consult with your EPA Regional Office.

Both user and generator sources are liable for certain aspects of an OMT EIP including:

- Each owner/operator of a DER generator source is responsible for ensuring:
  - The actions claimed have been taken.
  - Compliance with their emission rate as it has been decreased by generating DERs.
  - The emission reductions are surplus.
  - The generator source has transferred the emission reduction to only one other party - either the ultimate user, or a third party.
  - Statements regarding actions taken to generate excess emission reductions are true and accurate.

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- -- All monitoring, reporting and record keeping requirements are met.
- -- Any other air quality requirements that apply to the generator source are met.

- Each owner/operator of a DER user source is responsible for:
  - -- Compliance with their emission rate as it has been increased by using DERs.
  - -- Ensuring that the DERs it is using comply with:
    - Geographic, inter-precursor, and use restrictions.
    - Surplus provisions.
  - -- Ensuring that the DER has not been used by another party.
  - -- Making up any emission shortfall resulting from invalid traded emissions associated with a disapproved protocol (see section 6.1(a)).
- All monitoring, reporting and record keeping requirements.
  - -- Any other air quality requirements that apply to the user source are met.

You should also consult the sections in this guidance on quantification protocols and the additional guidance that applies to EIPs as you develop your OMT EIP.

7.5(c) Provisions for sources that generate DERs

Certification of Generation. Sources that generate DERs must file with the State a Certification of Generation within 90 days after a generation action is complete, within 1 year after the generation activity commences, or before the user source files a Notice of Intent to Use the DER (see below), whichever is sooner. This certification allows States to track DER generation and use activity for air quality planning and enforcement purposes. You must make these certifications publicly available to allow citizens to understand the impact of open-market emission trading on their communities. The Certification of Generation must include the following:

- For stationary and area sources, identifying information including:
  - -- The name and address of the generator source.
  - -- The name of the owner and/or operator of the generator source.
- For mobile source emission reduction strategies, identifying information including:
  - -- The name and address of the entity claiming generation of DERs.
  - -- An explanation of who owns the sources affected by the control strategy.
- A statement certifying that to the best of the owner/operator's knowledge, the emission reductions generated are not also being claimed by another party.
- The name of the emission unit, permit, or identification number (if applicable), and applicable pollutant.
- The amount of DERs generated.
- The dates covered by the generation period.
- A unique identification number provided to the source by the State is assigned to each ton (or other unit defined in your EIP) of DERs generated (may be listed in a range for multiple DERs).
- A brief description of the activity implemented to generate DERs.
- A brief description of the quantification protocol used to calculate and document the DERs, relevant details such as calculations, assumptions, and a certification that the protocol meets all relevant requirements of the EPA's quantification protocol development criteria.

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- Information on the generator source's relevant applicable emission limits.
- If the generation activity causes emission increases of other pollutants, information on the emission of HAPs and other criteria pollutants, in accordance with MRR methods your EIP requires.
- A statement (if applicable) that the DERs generated are not included in transportation conformity projections, and that the MPO has been notified of DERs generated.
- A statement (if applicable) that the relevant FLM has been notified.
- A signed certification by a responsible party under penalty of law, of the truth, accuracy, and completeness of the Notice and its supporting documentation.

7.5(d) Provisions for sources that use DERs

Notice of Intent to Use. A source wishing to use DERs must submit to the State a Notice of Intent to Use at least 30 days before the start of the intended use. You must make these certifications publicly available to allow citizens to understand the impact of open-market emission trading on their communities. This notice must include:

- For stationary and area sources, identifying information including:
  - -- The name and address of the user source.
  - -- The name of the owner and/or operator of the user source.
- For mobile source use strategies, identifying information including:
  - -- Name and address of the entity intending to use DERs to comply with an emission reduction requirement.
  - -- An explanation of who owns the sources using the emission reduction.
- The emission unit or application name, the permit or identification number (if applicable), and the applicable pollutant type.
- The requirement(s) for which the source is using the DERs and the intended use period (i.e., the relevant source compliance periods for which DERs might be used).
- An estimate of the amount of DERs that will be used.
- A list of unique identification numbers assigned to each DER that will be used (may be listed in a range for multiple DERs) and the price paid for each DER (if applicable).
- A brief description of the DER quantification protocol that will be used to calculate and document the amount of DERs needed to demonstrate source compliance and certification that the protocol meets all relevant protocol development criteria.
- Information on the emission of HAPs and other criteria pollutants in accordance with the MRR methods your EIP requires.

Certification of Use. All DER users that have used DERs must submit to the State a Certification of Use no later than 90 days after the end of the use period, or 1 year after the start of a source compliance period for which DERs are used, whichever is sooner. You must make these certifications publicly available to allow citizens to understand the impact of open-market emission trading on their communities. The Certification of Use must include:

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- For stationary and area sources, identifying information including:
  - -- The name and address of the user source.
  - -- The name of the owner and/or operator of the user source.
- For mobile source use strategies, identifying information including:
  - -- Name and address of the entity covered by the DER use to comply with an emission reduction requirement.
- A description of the sources, including their owners and/or operators if identifiable, that are affected by the reduction requirement covered by the DER use.
- The emission unit or application name, the permit or identification number (if applicable), and the applicable pollutant type.
- The applicable requirement(s) for which DERs are used to comply, and the use period.
- The total amount of DERs used to demonstrate source compliance, including those used to meet environmental benefit requirements.
- List of unique identification numbers assigned by the registry or tracking system to each DER that was used (may be listed in a range for multiple DERs).
- A brief description of the DER quantification protocol used to calculate and document the number of DERs used to demonstrate source compliance, and certification that the protocol meets all relevant protocol development criteria.
- A statement that the DERs were not used in a manner prohibited under this regulation or other provisions of law.
- Information on the emission of HAPs and other criteria pollutants in accordance with State-determined methods.
- A statement that the FLM has been notified of generation and use (if applicable).
- Signed certification under penalty of law, of the truth, accuracy, and completeness of the Notice and its supporting documentation.

7.5(e) Provisions for quantifying DERs

Generally, the amount of DERs generated by a particular stationary or area source is the product of:

- the required environmental benefit and the compliance margin discounts,
- the difference between the source's allowable emission rate or historical actual emission rate (whichever is lower) and its actual emission rate, and
- the source's current activity level.

If the historical actual emission rate cannot be determined, the source's allowable emission rate can be used.

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If your EIP does not cover NALD areas, use the equation below to calculate the amount of DERs generated by a particular source:

$$(1- EB)\,(ER_{all_i} - ER_{act_i})AL_i$$

where:

EB = the environmental benefit adjustment (if environmental benefit is to be demonstrated by an emissions reduction); in this case, 0.1[10]

ER_{all_i} = the lower of :
- the lowest allowable emission rate that applies to source i,
- the historical actual emission rate that would have occurred if source i were not generating DERs

ER_{act_i} = actual emission rate that occurs when source i is generating DERs

AL_i = activity level for source i when it is generating DERs

If your EIP does cover any NALD areas, use the compliance equation provided in section 16.1.

The amount of DERs needed by a user source for compliance is the difference between a source's actual and allowable emissions during the time a source is using DERs. This is shown in the following equation:

$$\text{DERs needed for compliance} = (ER_{act_j} - ER_{all_j})AL_j$$

where:

ER_{act_j} = actual emission rate that occurs when source j is operating

ER_{all_j} = the lowest allowable emission rate that applies to source j

AL_j = activity level for source j when it is using DERs

In addition, you may need to apply other adjustment factors when calculating the amount of emission reductions generated or used. These are discussed in further detail under the heading "Adjustments to banked emission reductions" in section 16.15.

[10] Some programs may choose to apply the environmental benefit adjustment at the time of DER use, instead of when the DERs are generated. In such a case, the EB in the equation for calculating the amount of DERs generated would be equal to zero, and the amount of DERs needed for user compliance should by multiplied by (1 + EB).

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8.0 Elements of Financial Mechanism EIPs

Financial mechanism EIPs include fees or taxes on emissions (such as a toll on a congested highway), subsidies targeted at promoting pollution-reducing activities or products, and time-saving incentive mechanisms (such as a high-occupancy vehicle lane for car pools). While financial mechanisms do not limit total emissions directly, they indirectly reduce emissions by increasing costs for high emitting activities. This section presents the provisions you must include in financial mechanism EIPs. If you are interested in developing a CAIF EIP, see section 9.0. If you are interested in developing a transportation pricing financial mechanism EIPs, see section 13.1(a).

As emphasized in section 1.9 of this guidance document, this document proposes key elements for EIPs. The EPA currently believes that a program containing these elements (which are phrased in the imperative - using the terms "must" or "shall") would assure that the program would meet the applicable CAA provisions.

Once you submit a SIP revision containing an EIP, EPA will take action through notice-and-comment rule making to determine if the statutory requirements have been met. Only action taken after the conclusion of that rulemaking would constitute final Agency action. The EPA would take steps to expedite its proposed approval in the case of SIP revisions containing programs that contain the elements of this guidance.

If you submit a program that does not contain the elements of this guidance for that type of program, EPA would still seek to determine whether the applicable CAA requirements were met, and, if so, EPA would approve the submission. The EPA would make this determination through notice-and-comment rule making.

8.1 What provisions must all financial mechanism EIPs contain?

In addition to the provisions section in section 5.0, "Common Elements of All EIPs", your EIP must include provisions that cover the fundamental principles of integrity, localized increases from criteria

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pollutants and their precursors, localized increases from HAPs, demonstration of environmental benefit, and where applicable, FLM notification.

8.1(a) Fundamental integrity elements

The terms *surplus, quantifiable, enforceable,* and *permanent* refer to the fundamental integrity elements that apply to emission reductions that qualify for inclusion in your EIP. Section 4.0 presented the general definitions of the four fundamental elements as they apply to all EIPs. The specific application of the fundamental elements to financial mechanism EIPs is described below.

Surplus. The programmatic emission reductions associated with a financial mechanism EIP that produces programmatic emission reductions are surplus if:

- they meet the general programmatic definition of surplus, and
- you show that your EIP results in lower emissions than would have occurred without the financial mechanism EIP.

If your financial mechanism EIP is a replacement for existing SIP or SIP-related requirements, the source-specific emission reductions made by individual sources participating in your EIP are surplus if they meet the general definition of source-specific surplus. In most other cases, the source-specific surplus fundamental element does not apply to individual sources.

Enforceable. The emission reductions associated with a financial mechanism EIP are enforceable if they meet the general programmatic and source-specific definitions of enforceable.

Quantifiable. The source-specific emission reductions associated with a financial mechanism EIP are quantifiable if they meet the general programmatic and source-specific definitions of quantifiable. In addition, if your financial mechanism EIP is a replacement for existing SIP or SIP-related requirements, the emission reductions made by individual sources participating in your EIP are usually quantifiable if the sources quantify their total emissions before and after the implementation of the EIP. In most other cases, sources must quantify total emissions per unit of time during the implementation of the EIP. Further, certain financial mechanism EIPs such as transportation pricing may quantify emissions only at an aggregate level rather than for each individual source participating in the program.

Permanent. The emission reductions associated with a financial mechanism EIP are permanent if they meet the general programmatic definition of permanent. The source-specific definition of permanent only applies to those financial mechanism EIPs that replace existing SIP or SIP-related requirements. In most other cases, the source-specific fundamental element of permanent does not apply to individual sources.

8.1(b) Provisions for localized increases from criteria pollutant emissions and their precursors

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In general, the EPA expects that you will add financial mechanism EIPs to your existing SIP or SIP-related requirements. This means that the fee or subsidy will not allow sources to avoid current requirements in your SIP. In this situation your financial mechanism cannot cause an increase of emissions above existing levels prior to the implementation of your EIP.

If your financial mechanism replaces current SIP requirements, then localized emissions may increase when you implement your EIP. If emissions could potentially increase, then your EIP must contain provisions that address these potential emission increases. Localized increases are of concern due to human health effects and visibility impairment in Class I areas. The pollutants of concern are CO, SO_2, PM, and NO_X. See section 8.1(c) for a discussion of localized increases of HAP emissions.

A financial mechanism that replaces a SIP requirement limiting emissions of criteria pollutants or their precursors from individual sources could lead to significant localized increases of certain criteria pollutants. A financial mechanism that allows a source to pay a fee in lieu of making a reduction in emissions may potentially cause a significant increase in pollutants. In such cases, emission modeling may be necessary. You should use modeling to analyze the potential impact the financial mechanism EIP has on emissions and compare your results to the emissions prior to the implementation of your EIP. Please refer to Table 6.1 in section 6.2(a) for definitions of a significant annual increase for each of these pollutants and specification of the modeling requirements.

The EPA has proposed a program called the Intervention Level program to address 5-minute concentrations of SO_2 greater than 0.6 ppm (62 Federal Register 210). Any financial mechanism program you develop must consider the potential for your EIP to create high short-term concentrations.

8.1(c) Provisions for localized impacts of HAPs

Many VOC emissions contain HAPs, which are toxic pollutants. The EPA believes that localized impacts of HAP emissions must be addressed if your financial mechanism EIP affects VOC emissions and allows sources to pay a fee in lieu of otherwise required emission reductions. If that is the case, your EIP must contain provisions that protect against localized impacts of HAPs that follow the basic principles contained in sections 5.1(b) and 6.2(b). Section 16.2 presents additional guidance that explains how your EIP submittal can meet these principles.

8.1(d) Environmental benefit demonstration

Almost all financial mechanisms will meet the environmental benefit requirement if they conform to all the applicable requirements in this guidance as discussed in section 4.3 and 5.1(a).

8.1(e) Provisions for FLM notification

If your financial mechanism EIP allows sources in or within 100 km of a Class I area to pay a fee in lieu of a making reduction, then your EIP must meet the provisions contained in section 16.6.

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8.1(f) Provisions for addressing uncertainty

Section 5.2(b) generally describes uncertainty requirements for all EIPs. Sections 6.3(f) and 6.4 further describes how inter-temporal effects should be considered in terms of their role in contributing to uncertainty in trading programs. Since this guidance provides that some financial mechanisms may be used to replace existing SIP or SIP-related requirements, there are potential inter-temporal effects which must be taken into consideration, and the approach described in sections 6.3(f) and 6.4 (analyze, minimize, track, correct) should be applied. In managing these effects, an overall constraint you face is the fundamental element of permanence, as defined in sections 4.2, which requires that you ensure that there are no emissions increases compared to if there was no EIP.

8.1(g) Restricting use of alternative emission limits

Under traditional air quality management approaches, sources are required by regulation to meet emission limitations. In some cases, sources may find it very costly to meet these requirements by the required deadline. In such events, States have granted sources some form of relief (e.g., waivers, exemptions, compliance deadline extensions, and temporary relaxations to the regulatory requirements). These forms of relief are known as alternative emission limits, or AELs. While AELs may be necessary in limited cases, widespread use of AELs ultimately means that expected emission reductions will be delayed.

Financial mechanism EIPs provide sources a financial incentive for obtaining required emission reductions on time. If structured properly, sources will seek to reduce emissions instead of pursuing an AEL. Therefore, your financial mechanism EIP must prohibit the use of AELs, unless you can demonstrate a case where your EIP cannot provide such a financial incentive.

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9.0 Elements of Clean Air Investment Funds

A CAIF is a State-run mechanism to assist sources that face high control costs. It can be incorporated into Federal or State implementation plans for meeting the ozone and PM standards. The principal purpose is cost relief. A CAIF can serve as a way to lower the cost of compliance for sources by allowing them to pay an annual amount per ton of emissions in lieu of installing control equipment. The fund can also serve as a vehicle to attract investment in program development and technology innovation to improve long-term air quality management. The central purpose that ties these two uses together is to provide States and localities an additional tool for seeking out and securing less costly emission reductions.

The EPA is supporting development of clean air investment funds as a way to help all partners in air quality management -- localities, States, regional organizations, and the EPA, achieve the NAAQS in a manner that maximizes common sense, flexibility and cost-effectiveness. The EPA is also seeking to encourage investments in innovative programs, processes, and technologies that can improve your ability to provide clean, healthful air to American citizens over the long term. Compliance strategies including a CAIF will likely lower the costs of attaining the standards through more efficient allocation, minimize the regulatory burden for both small and large pollution sources, and serve to stimulate technology innovation.

As emphasized in section 1.9 of this guidance document, this document proposes key elements for EIPs. The EPA currently believes that a program containing these elements (which are phrased in the imperative - using the terms "must" or "shall") would assure that the program would meet the applicable CAA provisions.

Once you submit a SIP revision containing an EIP, EPA will take action through notice-and-comment rule making to determine if the statutory requirements have been met. Only action taken after the conclusion of that rulemaking would constitute final Agency action. The EPA would take steps to expedite its proposed approval in the case of SIP revisions containing programs that contain the elements of this guidance.

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If you submit a program that does not contain the elements of this guidance for that type of program, EPA would still seek to determine whether the applicable CAA requirements were met, and, if so, EPA would approve the submission. The EPA would make this determination through notice-and-comment rule making.

9.1 Why should I establish a CAIF?

A CAIF can serve as one instrument for managing your air resources cost effectively. A fund would contain dedicated revenues targeted specifically at identifying, obtaining, and if necessary aggregating, less costly emission reductions. A fund can also provide you a way to lower the cost of compliance for firms facing high dollar-per-ton control costs. At the same time, by using the fund's resources, you can provide incentives for smaller sources and small businesses to participate in air quality management programs without imposing specific control requirements. As a long-term investment vehicle, a fund can provide you with additional control over your air quality in the future by providing you with the means to support the development of specific processes and technologies that will lead to air quality improvements in combination with economic growth.

9.2 How does a CAIF work?

For cost relief, sources facing control costs that exceed a State designated cost-per-ton benchmark pay into the fund in lieu of implementing required controls. Capital may also flow into the fund in addition to payments in lieu of compliance, such as from voluntary contributions. The fund can be administered directly by the State or by third parties at the State's discretion. If the State chooses to authorize the fund to purchase reductions, the fund administrator pools source payments and uses the capital to identify and purchase equivalent but less costly emission reductions. For long-term investment, the fund administrator may invest these pooled funds in such efforts as the development of new control technologies or pollution prevention strategies that will support a State's long-range air quality goals. Regardless of how the fund is used, States are still required to ensure that air quality targets are reached, either through use of the CAIF funds or other Federally-enforceable mechanisms.

9.2(a) Cost-per-ton threshold/benchmark

The cost-per-ton amount selected by your State establishes the threshold for a source's decision about whether it is cheaper to pay into the fund or comply with the regulatory requirements. It also determines how much sources will pay into the fund on a per-ton basis for those emissions at a source that remain uncontrolled. The threshold, therefore, also functions as a de facto ceiling or cap on the costs of complying with the ozone and PM standards in your State. Only those emissions for which the control costs exceed the threshold for a given source and are specifically targeted for reduction in your SIP can be the basis of contributions to a CAIF in lieu of compliance. Payments into a fund in lieu of controlling those emissions continue on an annual basis for as long as the designated emissions are counted in your plans for attainment and maintenance of the standards. Payments into a fund that are not being made in lieu of compliance do not have to be tied to a threshold.

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9.2(b) Setting the cost-per-ton threshold

Subject to the criteria listed below, you are responsible for setting the cost-per-ton threshold for payment into CAIFs established under your State's authority. Depending on your preference, you could establish a threshold which covers all programs, or derive a threshold appropriate to each individual program. For example, you may choose to apply a single threshold to be applicable to any of your clean air regulatory requirements. Conversely, you may find it valuable to set a threshold on a rule-by-rule basis since the cost of controlling different pollutants in different source categories can vary. Thresholds can be based on a pollutant or source category basis. Regardless of how you choose to establish your thresholds, all the monies may flow into a single CAIF.

As stated in the President's implementation directive of July 16, 1997, "Consistent with the States' ultimate responsibility . . . , the EPA will encourage the States to design strategies for attaining the PM and ozone standards that focus on getting low cost reductions and limiting the cost of control to under $10,000 per ton for all sources." Therefore, you may use the $10,000- per-ton threshold as a guide, but you may set your required per-ton threshold for payment into a fund higher or lower than $10,000, based on local and regional circumstances and the purposes designated for the fund, consistent with the guidance outlined below. These purposes must be consistent with your overall strategy for management of your air resources, as reflected in your SIP.

When establishing a cost-per-ton threshold, you must consider a variety of factors. Determining an appropriate single threshold to apply to all sources required to control ozone and/or PM precursors could be complex. Establishing a threshold applicable to an single pollutant (i.e., NO_X) would be less challenging. However, you would still need to look across multiple source categories which may have very disparate control costs. Setting a threshold for individual source categories would be easier. Easiest of all may be to set a threshold for each emission reduction rule, or related group of rules for individual source categories that together constitute a control program.

Because the nature and level of the pollution problem differs from state to state, you must work with the following groups of stakeholders as appropriate to determine the suitable threshold value:

- regulated sources of air pollutants.
- environmental advocacy organizations.
- educational institutions.
- government agencies.
- private businesses.

You must be able to document the justification for your selected threshold value and the comments of the stakeholders on the selected value. This justification should provide evidence that your selected threshold value is at "the high end of the range of reasonable cost to impose on sources." Examples of approaches you might use to set the cost-per-ton threshold include:

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- using marginal cost, often defined as the highest dollar-per-ton cost for any source or source category;
- calculating the average cost-per-ton of control, and multiplying by some factor, e.g. 1.5;
- setting a level at which a fixed percentage of the required emission reductions (e.g., 95 percent) for a rule or program can be achieved at a cost per ton below that level.

Prior to program implementation, you must conduct an analysis of the effects of setting the cost-per-ton threshold. The analysis must evaluate at least two aspects of setting the cost-per-ton threshold figure. First, for any specific cost threshold, identify sources that might participate and the projected mass emission reductions foregone. Second, identify potential sources of compensating emission reductions. This analysis will be part of your demonstration that your program does not interfere with attainment, maintenance, or progress.

9.2(c) Using the revenue from your CAIF

You have several basic options to choose from in using the revenue generated by a CAIF, whether administered by you or a third party. These basic options include:

- purchasing emission reductions from an emissions trading market;
- subsidizing the purchase or use of control equipment at various sources in your State, which could include a variety of equipment for stationary source control, and/or technologies to reduce emissions from mobile sources;
- sponsoring alternative environmental abatement programs, such as pollution prevention programs or transportation system improvements;
- funding research in innovative technologies or innovative abatement strategies.

Combinations and variations on these options can produce a broad spectrum of approaches to using investment fund revenues. However, you must not use CAIF revenues to fund activities that are currently part of the attainment demonstration, because these emission reductions would not be surplus.

Note that some of these approaches will provide more certain emission reductions than others. When you use an investment fund to replace a prescribed control strategy, you must be especially careful to ensure that this use of the fund does not interfere with your ability to comply with the ozone and PM standards as reflected in your SIP. Therefore, if you give up a ton of emission reductions that you rely upon for attainment in your SIP, you must find a ton of reductions elsewhere. Purchasing known reductions on the market or using known control technologies will give you the most certainty in the short run. However, you do not have to make up the reductions only through the use of the fund. As long as you reach your attainment goals, how the emission reductions are realized is up to you.

The EPA also recognizes that funding the development of innovative technologies and pollution prevention strategies can lead to great environmental benefit in the long term. If you can ensure compliance with the standards, you should consider using the fund for this purpose as well. One way you can accomplish this is to broaden the types of sources contributing to a fund. For example, if you receive contributions from industry or other parties interested in the development of new technology,

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you can ensure that you have enough money in the fund to work toward long-term innovations while achieving the reductions you need in the short term. In this way you could establish a fund large enough to find required reductions in the short run, while providing for the development of broader, more innovative strategies in the long run. However, it is important to ensure legally and administratively that sources (or others) that make voluntary contributions to a CAIF cannot later use those voluntary contributions as an escape from regulatory requirements they must meet. In addition, money obtained through a penalty or enforcement action should not be a source of capital for a clean air investment fund.

9.3 How do CAIFs compare to other EIPs?

CAIFs have features of both trading programs and financial mechanism EIPs. CAIFs are similar to trading EIPs because:

- They provide sources a flexible way to comply with emission limits that may reduce costs.
- Source participation is voluntary.
- They allow you to replace more costly emission reductions with less costly emission reductions.
- Like OMT EIPs, they do not necessarily limit or reduce emissions.

CAIFs are similar to financial mechanism EIPs - particularly to emission fee programs - because they:

- Do not limit total emissions directly.
- Provide compliance flexibility to sources with high emission control costs by allowing them to pay a fee rather than reduce their emissions.

CAIFs differ from financial mechanism EIPs because:

- A source participates in a CAIF as a means of meeting its emission reduction obligation.
- Source participation in a CAIF is voluntary.
- A CAIF allows sources with high control costs to comply with their emission limit by paying a fixed fee, while a financial mechanism encourages sources to reduce their emissions to avoid paying a fee.
- CAIFs reduce emissions by spending the emission fees on emission reductions from other sources rather than by discouraging emissions by levying a substantial emission fee at the designated source.

Because of the similarities between CAIFs and trading EIPs, particularly OMT EIPs, many of the provisions for trading EIPs are also required for CAIF programs (see below).

As with any economic incentive program, you must provide the necessary assurances that establishing a CAIF is consistent with your capacity to achieve required emission reductions, as provided for in your SIP. These assurances are particularly important for clean air investment funds, because unlike many other EIPs, a source's payment into a clean air investment fund does not automatically assure that required emission reductions will occur without additional action from the State. For example, in a

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trading program a source can directly purchase the required reductions from another source. Therefore, you become responsible for assuring that any foregone emission reductions needed to meet air quality targets are still achieved. As part of the special requirements associated with setting up a CAIF, you will need to develop and submit a specific strategy for how you will achieve the alternative emission reductions prior to implementing your CAIF.

A wide range of options are available for you to consider in the design of your CAIF that can help you provide the necessary assurances and develop the required strategy. Some options to consider include:

- Third-party administration: you may choose to contract with a third party to administer a fund. The contract may include performance clauses that provide incentives for meeting or exceeding emission reduction targets, penalties for failure to meet emission reduction obligations, and plans for making up reduction shortfalls. If you choose to operate a CAIF through a third-party arrangement, you must provide legal assurance that the legal authority and responsibility for decisions about emission reduction strategies pursued through the CAIF remain with the appropriate State officials.
- Source-specific obligations: you may choose to structure the relief-valve provisions in your investment fund to place the burden on sources to find the alternative reductions. In order to participate by paying into the fund in lieu of meeting certain control requirements, a source must present a plan that includes the identification of sources of alternative reductions. Either the fund applicant or the alternative sources must supply all necessary evidence and assurances that the proposed alternative reductions meet all criteria.
- Contingent approval: you may choose to structure the relief-valve provisions in your investment fund so that final approval of a source's payment in lieu of reductions does not occur until after the fund has found sufficient alternative reductions. Once the alternative reductions are sufficiently secure, the source's payment proposal is finalized and it is released from the designated part of its control obligations.
- Reserves and surcharges: you may choose to structure your fund with a preexisting reserve of approved reductions or credits. You might create the reserve by relying on credits generated in an existing banking and trading program, or by imposing a surcharge on emissions trading transactions. Instead of a trading ratio of 1.1 to 1, for example, you might make the ratio 1.12 or 1.15 to 1. You could bank the additional credits to be used only if the clean air investment fund fails to find all the reductions foregone through payments into the fund.
- Performance bonds: many federal and state environmental programs, especially those concerned with cleanup and restoration, contain bonding requirements. You may consider looking to one or more of these programs for guidance in designing similar provisions in your investment fund program. For example, you may require sources to post a performance bond as part of their payment in lieu of reductions. If the investment fund is unable to pay for sufficient alternative reductions using the payments in lieu of reductions, it may take the bond as a further financial contribution toward securing the required reductions.

As with any new approach, operating a clean air investment fund will present challenges. Identifying and obtaining lower-cost emission reductions may be a challenge in the short run. As a mechanism for investing in promising technology, deciding how to invest the funds to obtain future progress in air quality

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for the long term will present a different type of challenge. Furthermore, the establishment of the cost-per-ton benchmark may prove difficult politically and administratively, depending on the level at which it is set.

9.4 Can I use a CAIF to address environmental justice concerns?

Although a CAIF can be used to lower the cost of obtaining emissions reductions, and support the development of innovative processes and technologies, you could use your CAIF to address environmental inequity. For example, you could use funds deposited into a CAIF to purchase emission reductions from areas with higher pollutant concentrations than surrounding areas, or to develop or subsidize innovative technology and strategies that reduce emissions in communities of concern. In addition, the general principles outlined in sections 16.2 (HAP framework) and 16.11 (localized increases of criteria pollutants) apply to CAIFs.

9.5 How do I establish and implement a CAIF?

The process for developing and adopting a CAIF is no different from any other EIP. In developing a fund, you should involve your stakeholders, meet any specific requirements contained in this section, and meet all other relevant requirements in this guidance (see especially "Who determines the cost-per-ton threshold and how should it be set?"). See section 11.0, "Getting Your EIP Approved" for further information on the approval process for economic incentive programs.

The EPA's role in the development of a CAIF requiring SIP approval is the same as with any other EIP. The EPA Regional Offices will work with the States on a request basis to assist them in the development of a CAIF appropriate to their circumstances.

Your role in implementing a CAIF will depend on what your fund is designed to do, the structure of the fund, who is running the fund, and whether the emission reductions, which should have been achieved by sources paying into the fund, were commitments under your SIP.

If the reductions are required in the SIP, you must ensure that these emission reductions are obtained from other sources, and that the reductions meet all the requirements designated elsewhere in this guidance. In addition, you must outline a general strategy you will employ to achieve equivalent alternative reductions given the existence of the fund (see section 9.3, "How Do CAIFs Compare to Other EIPs").

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9.6 What provisions must all CAIFs contain?

Because a CAIF contains features of both trading programs and financial mechanisms, many EIP provisions are relevant to CAIFs.

9.6(a) Fundamental integrity elements

The terms *surplus, quantifiable, enforceable,* and *permanent* refer to the fundamental integrity elements that apply to emission reductions that qualify for inclusion in your EIP. Section 4.0 presented the general definitions of the four fundamental elements as they apply to all EIPs. The specific application of the fundamental elements to CAIFs are described below.

Surplus. The general programmatic definition of surplus does not apply to CAIFs since they do not result in program-wide emission reductions. The general source-specific definition of surplus applies to the generation of emission reductions used by the fund. Emission reductions of a criteria pollutant resulting from a non-criteria pollutant program are not surplus if they are:

- generated by installing MACT.
- due to participating in the Acid Rain, NO_X, or SO_2 reduction program (Phase I or II), or
- result from complying with any requirement of the CAA.

Enforceable. The emission reductions associated with CAIFs are enforceable if they meet the general programmatic and source-specific definitions of enforceable.

Quantifiable. The emission reductions associated with CAIFs are quantifiable if they meet the general programmatic and source-specific definitions of quantifiable. Specifically, depending on the program, sources that are paying fees must quantify their actual and allowable emissions, where sources that generate emission reductions must quantify emissions before and during implementation of the reduction strategy.

Permanent. The emission reductions associated with a CAIF are permanent if they meet the general programmatic and source-specific definitions of permanent.

9.6(b) Additional Provisions for CAIFs

Automatic Suspension Mechanism. All CAIFs must include a mechanism which automatically suspends source payments into the CAIF in lieu of achieving compliance, if the CAIF fails to produce compensating emission reductions within a specified time frame. EPA recognizes that funding and achieving equivalent emission reductions may lag behind emission increases from sources contributing to the CAIF. However, that time lag must be limited. In addition, you must not allow a CAIF which is consistently failing to produce compensating emission reductions to continue operating.

The following are elements of an automatic suspension mechanism:

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- the amount of actual emission increases (the amount above the applicable regulatory limits) from sources paying into the CAIF are tracked on a relevant control season basis (e.g., an ozone season extending from April 1 through September 30). Reductions outside of a control season cannot be used to offset increases within a control season.
- the emission increases are tracked for each relevant control season, and on a rolling basis. At any given time, you will be tracking at least two separate control seasons of emission increases and emission reductions.
- emission increases must be matched by equivalent emission reductions by the end of the following control season. For example, if at the end of the control season in 2000, sources paying into your CAIF for that season had 500 tons of emission increases, your CAIF must obtain 500 tons (actual emission reductions, not commitments or promises) by the end of the 2001 control season. For purposes of the suspension threshold for your CAIF, it is triggered by the total amount of emission increases, not the total emission reduction obligations (which include at least an additional 10% of emission reductions, if you choose to demonstrate environmental benefit in this way).
- To increase flexibility and recognize fluctuations in producing emission reductions, surplus emission reductions (i.e., the amount by which emission reductions exceed emission increases) from one control season can be carried over into the next control season.
- To avoid undue hardship and give you additional time to fix your CAIF, sources which have contributed to the CAIF prior to its suspension may continue their payment in lieu of compliance for one year after the date of suspension of the CAIF. However, if your CAIF has not produced equivalent emission reductions by the end of the one year suspension period, all sources must at that time fully comply with all Clean Air Act requirements and prohibitions.

Annual Accounting and Reconciliation. Any CAIF you establish must also contain the following provisions in the rule:

- an annual accounting and evaluation of the fund's operation;
- a reconciliation process that ensures continuing progress toward attainment by meeting the reconciliation requirements of this guidance; and
- a mandatory review of the cost-per-ton threshold, including any adjustment to the threshold that may be needed.

Additional SIP Submittal Materials. The following is a list of additional materials that must be included with your CAIF SIP submittal.

- An explanation on how you established the cost-per-ton threshold.
- An analysis showing that the cost-per-ton threshold amount you selected will not interfere with attainment, maintenance, and progress.
- An analysis identifying the sources you expect to contribute to the fund annually, and how many tons of emission reductions you expect you will need to obtain from other sources.

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- A general plan indicating how you expect to achieve alternative emission reductions for those reductions foregone as a result of sources contributing to the fund in lieu of meeting control requirements.
- A mechanism that suspends payments into the CAIF in lieu of achieving compliance if the CAIF, or the CAIF and some combination of other federally enforceable mechanisms fail to produce compensating emission reductions within a specified time frame.
- Documentation showing you have access to and control of the funds in a CAIF which allows the State air authority sole control on how the funds are used.
- If you achieve the required reductions through a mechanism other than the CAIF, a demonstration that the other mechanism is also federally enforceable.

Liability. Each source owner/operator is liable for meeting its emission limit as it is modified through CAIF participation. A source's emission limit is expressed as its total emissions less those emissions covered through participation in the CAIF.

Demonstrating environmental benefit of your CAIF. Your CAIF will meet the requirement of environmental benefit if you demonstrate that the CAIF will achieve at least 10 percent more emissions reductions than participating sources would achieve if they complied directly with the emission standard instead of paying into the CAIF. For example, if sources paying into a CAIF have foregone emission reductions equal to 100 tons, you must demonstrate that the CAIF results in 110 tons of emission reductions - the additional 10 tons being retired for the benefit of the environment. These extra emission reductions can come as a direct result from investing the collected fees or by other additional enforceable emission reduction measures that you include in your CAIF EIP submittal. Alternatively, your CAIF can meet the environmental benefit requirement if you can show that it:

- improves administrative mechanisms (for example, mechanisms that achieve emissions reductions from sources not readily controllable through traditional regulation),
- reduces administrative burdens on regulatory agencies that lead to increased environmental benefits through other regulatory programs, or
- improves emissions inventories that enhance and lend increased certainty to State planning efforts.

Interaction With Other EIPs. In general, you should prohibit the MPO from using a CAIF to meet transportation conformity requirements. EPA currently does not believe it is feasible to demonstrate transportation conformity by paying into a CAIF. Because conformity itself allows you to find reductions from any number of sources, it does not have a single control cost associated with it. Therefore, EPA believes it is not possible to show that the costs of meeting conformity exceed a threshold cost. In fact, because reductions may come from any number of sources, conformity already allows you to find reductions in the cheapest manner possible. However, if you wish to use CAIF payments to demonstrate transportation conformity, and believe you can address these issues, you should work with your EPA Regional office to develop a feasible program.

Federal Land Manager Notice. If your CAIF allows sources in or within 100 km of a Class I area to participate in the CAIF in lieu of a making reduction, then your EIP must meet the provisions contained

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in section 6.1(e). In such cases, you or the source must notify the FLMs of all potentially affected Class I areas. Your CAIF rule must require that you or the participating sources notify the relevant FLM at least 30 days before a participating source pays a fee in lieu of reducing emissions. Your EIP may require notice of less than 30 days if it is acceptable to the FLM.

Localized Impacts of Hazardous Air Pollutants. Many VOC emissions contain HAPs, which are toxic pollutants. Localized impacts of HAP emissions must be addressed if your CAIF affects VOC emissions. If that is the case, your CAIF must contain provisions that protect against localized impacts of HAPs that follow the basic principles contained in section 6.1(b). Additional guidance in section 17.2 explains how your EIP rule can meet these principles.

Restricting Use of AELs. Since CAIFs allow sources to pay into a fund so that less costly emission reductions can be purchased elsewhere, sources will no longer need AELs. Therefore, your CAIF EIP must prohibit the use of AELs, unless you can demonstrate a case where you are unable to purchase emission reductions elsewhere.

Administration and Resource Management. Creating a CAIF may require additions to your State's existing organizational and administrative infrastructure for air resources management. Additional regulations and special legislation may be required depending upon your State's existing authority. Specifically, mechanisms are needed to ensure that the collected funds are available exclusively for air pollution control purposes.

In addition to section 6.0, "Common elements of all EIPs," in its entirety, the following sections of this guidance related to trading programs also apply to CAIFs:

- 7.1(b) Penalty and corrective action provisions
- 16.8 Provisions for sources with title V permits
- 7.2(a) Provisions for localized increases of criteria pollutants and precursor emissions
- 16.9 Provisions for ozone inter-precursor trading
- 16.10 Provisions to ensure consistency with transportation conformity (under *avoiding double counting between trading EIPs and transportation conformity*)
- 16.12 Provisions inter-credit trading
- 16.13 Provisions for EIPs that include RACT sources
- 16.14 Provisions for new source review and trading
- 7.3(e) Limitations on emission reduction uses
- 16.15 Provisions for banking emissions reductions
- 7.4 What provisions do I need in my trading EIP to address uncertainty
- 16.16 Provisions for geographic trading across jurisdictional boundaries
- 16.6 Provisions for FLM notification in Class I areas
- 7.5(d) Provisions for tracking systems and market clearinghouses
- 7.5(e) Provisions concerning multi-claimants
- 16.17 Provisions for emission reductions that occur prior to EIP approval
- 16.1(a) Provisions for compliance margins

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10.0 Elements of Public Information EIPs

A public information EIP is a specific type of EIP that realizes emission reduction opportunities through public education, product certification, or content disclosure. Public information programs may be created for controlling emissions from stationary, mobile, or area sources. These programs are relatively new and not much historical information concerning their application is available at this time. Therefore, if you are proposing a public information program, you should work closely with the EPA to develop your SIP submittal.

As emphasized in section 1.9 of this guidance document, this document proposes key elements for EIPs. The EPA currently believes that a program containing these elements (which are phrased in the imperative - using the terms "must" or "shall") would assure that the program would meet the applicable CAA provisions.

Once you submit a SIP revision containing an EIP, EPA will take action through notice-and-comment rule making to determine if the statutory requirements have been met. Only action taken after the conclusion of that rulemaking would constitute final Agency action. The EPA would take steps to expedite its proposed approval in the case of SIP revisions containing programs that contain the elements of this guidance.

If you submit a program that does not contain the elements of this guidance for that type of program, EPA would still seek to determine whether the applicable CAA requirements were met, and, if so, EPA would approve the submission. The EPA would make this determination through notice-and-comment rule making.

The EPA supports the use of public information programs because they promote general public awareness of environmental issues, which can help achieve longer term environmental goals. This could actually be the primary goal of your information program, with emissions reductions from that particular program as a secondary goal. Table 10.1 below lists some examples of such programs.

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Table 10.1: Examples of Public Information EIPs	
Program Type	**Example**
Public Education	A public service announcement encouraging commuting by vanpool, carpool, or public transit
Product Certification	A label showing the energy efficiency of an appliance
Content Disclosure	Information about ozone forming compounds in consumer products

10.1 What provisions must all public information programs contain?

10.1(a) Fundamental integrity elements

In addition to meeting the requirements of section 4.0 of this guidance, your EIP must cover the fundamental integrity elements as follows.

The terms *surplus, quantifiable, enforceable,* and *permanent* refer to the fundamental integrity elements that apply to emission reductions that qualify for inclusion in your EIP. Section 4.0 presented the general definitions of the fundamental integrity elements as they apply to all EIPs. The specific application of the integrity elements to public information EIPs are described below.

Surplus. The emission reductions associated with a public information EIP that produces programmatic emission reductions are surplus if they meet the general programmatic definition of surplus and you show that programmatic emission reductions have occurred beyond what would have occurred without the program. The source-specific emission reductions associated with public information must meet the general source-specific definition of surplus if you can identify individual or indirect sources. For most other public information EIPs, the fundamental element of surplus does not apply to source-specific reductions.

Enforceable. The emission reductions associated with public information EIPs are enforceable if they meet the general programmatic definition of enforceable. If you can identify individual sources or indirect sources that are responsible for activities or emission reductions then the general source-specific definition of enforceability applies to these individual sources or indirect sources. If you cannot identify individual sources or indirect sources, your EIP must meet one of the following three requirements.

- Your EIP submittal includes fully adopted enforceable contingency measures, and you commit to automatically implementing one or more of these contingency measures if your audit shows additional measures are needed to achieve the projected emission reductions.
- You incorporate your EIP into your SIP but count the emission reductions toward your air quality requirements on a retrospective basis only.

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- The control strategy in your EIP has been used before as an emission control strategy in a similar situation and achieved positive results, and you get preliminary approval from your EPA Regional Office on the use of this provision before developing your EIP submittal.

Quantifiable. The emission reductions associated with public information EIPs are quantifiable if they meet the general programmatic definition of quantifiable. However, in most cases, the fundamental element of source-specific quantification does not apply to participating sources; though, depending on the program, some EIPs may require source-specific emission quantification before and during implementation of your EIP if you can identify individual or indirect sources.

Permanent. The emission reductions associated with a public information EIP are permanent if they meet the general programmatic and source-specific definitions of permanent.

10.1(b) Environmental benefit demonstration

If you demonstrate that your public information EIP conforms to all applicable environmental benefit requirements in this guidance in sections 4.3 and 5.1(a), your EIP meets the requirement for demonstrating an environmental benefit.

10.2 Are "voluntary measures" programs different from EIPs?

Most emission reductions generated under mobile source public information programs may be counted toward your air quality goals under the "Guidance on Incorporating Voluntary Mobile Source Emission Reduction Programs in State Implementation Plans," released by the EPA's Office of Mobile Sources in October 1997. This guidance is in section 16.4. You may find it more appropriate to establish these programs using that guidance. Section 14.1(a) provides guidelines that will help you determine which guidance is appropriate for your program.

In January 2001, the Office of Air Quality Planning and Standards released "Incorporating Voluntary Stationary Source Emission Reduction Programs Into State Implementation Plans" You can find this policy in section 16.4. It is patterned after the guidance developed for voluntary mobile source emission reduction programs in that it allows some voluntary stationary source emission reductions to be counted towards your air quality goals.

You may find either the EIP guidance or the voluntary measures guidance to be more appropriate depending on the specific nature of your program. If you submit a program to the EPA under the stationary source voluntary measures guidance, you do not need to follow the EIP guidance.

The EPA has limited the administrative requirements of programs developed under the mobile and stationary source voluntary measures guidance because these programs are smaller in terms of the emission reductions they produce, and because they can increase public awareness. These limits are as follows:

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- You may use either the mobile source or the stationary source voluntary measures guidance to achieve up to 3 percent of the required reductions for each of the criteria air pollutants or precursor for any applicable SIP requirement.
- If you choose to develop both types of voluntary measures programs, you can achieve up to 6 percent of the required reductions for each of the criteria air pollutants or precursor for any applicable SIP requirement - but you cannot achieve more than 3 percent for each type of program..

The 3 percent cap per criteria pollutant was instituted because you are not required to play a direct role in implementing these programs, the programs are not directly enforceable against participating parties, and there may less experience in quantifying the emission benefits from these programs. Under either voluntary measures policy, you must make a commitment to conduct and monitor your program, and that you will make up for any reductions which are claimed but not achieved by your program.

You may use the EIP guidance to implement programs which will generate emission reductions beyond the 3 percent limit, or when you have already reached the 3 percent limit under the voluntary measures guidance. Under the EIP Guidance, you are directly responsible for ensuring that program elements are implemented. Your program must be directly enforceable as described in sections 4.0, 6.1, and 12.2. Actions and/or emission reductions by identifiable sources are enforceable by you and/or by the EPA.

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OTHER REQUIREMENTS FOR EIPs

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11.0 Getting Your EIP Approved

11.1 Under what circumstances must I get my EIP approved as part of my SIP?

There are two circumstances under which you must get your EIP approved as part of your SIP:

- Your EIP provides sources with an alternative way to comply with requirements already in your SIP or required to be in your SIP (a compliance flexibility EIP).
- Your EIP achieves emission reductions that you plan to use to help meet your air quality planning requirements, such as an ***attainment plan***, ***maintenance plan***, ***reasonable further progress (RFP) demonstration***, ***rate of progress (ROP) demonstration***, etc. (a programmatic reduction EIP).

Your EIP does not need to be part of your SIP if:

- it is not an alternative means for compliance with your SIP, or
- it is not designed to achieve emission reductions to meet your SIP requirements.

If you intend your EIP to be considered an official SIP submittal, it must be consistent with the criteria in 40 CFR Part 51 Appendix V concerning completeness. Section 11.2 of the guidance discusses how the completeness criteria in Appendix V apply for purposes of an EIP submittal, and also discusses some concepts regarding an approvable EIP submittal.

11.2 What must I submit to demonstrate my EIP is complete?

You must submit the following:

- To show that you have legal authority, you must submit evidence that you have the necessary legal authority under State law to adopt and implement the ***State EIP rule***. For example, your evidence may be a letter from your Attorney General's office providing an analysis of your legal authority to adopt and implement the State EIP rule under State law.
- You must submit evidence that you have legal authority to enforce the State EIP rule, and provide other necessary assurances that your State EIP rule is consistent with the provisions of CAA section 110(a)(2)(E).
- The submittal must include a copy of your official State EIP rule, including indications of the changes made to the existing approved SIP where applicable. The State EIP rule and other relevant rules must be signed, stamped, and dated by the appropriate State official indicating that it is fully enforceable by the State.
- If your EIP includes sources that are not covered under a title V permitting program, you must show you have the same authority to assess penalties against these non-title V sources as required for sources covered under title V (as outlined above).

You must submit evidence that:

- You adopted the State EIP rule into the appropriate State mechanism (e.g., your applicable State rules) and the date adopted.
- You followed all the procedural requirements in the State's laws and constitution in conducting and completing the State EIP rule.

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- You gave public notice of the proposed changes consistent with procedures approved by EPA, including the date of publication of this notice.
- You held public hearings consistent with the information in the public notice and the State's laws and constitution.

You must also do the following:

- Include a compilation of all public comments and your responses consistent with the requirements of 40 CFR Section 51.102.
- Identify all regulated pollutants affected by the State EIP rule that are not explicitly stated in the rule.
- For all sources participating in the EIP, identify:
  -- the locations of affected sources,
  -- the EPA attainment/non-attainment designation of the locations, and
  -- the status of the attainment plan for the affected area(s).
- Consistent with section 5.2 of this guidance, quantify the changes in:
  -- Allowable emissions from affected sources.
  -- Actual emissions from affected sources. Calculate the differences between certain baseline levels and allowable emissions anticipated as a result of the revision.
- Consistent with sections 4.0, 6.1, and 12.2 of this guidance, submit evidence that the State EIP rule contains source compliance/enforcement strategies, including how source compliance will be determined.
- Submit evidence of adequate resources to implement and enforce the State EIP rule.

11.3 What must I submit for approval if my trading program involves more than my State?

You must submit evidence that each SIP provision is fully enforceable by your State. Because ***interstate trading*** programs may allow emission reductions originally generated or obtained by sources in one State to be used by sources in another State, these programs require an additional demonstration that the interstate trades are enforceable. This provision applies to all jurisdictions that operate under separate attainment demonstrations or RFP/ROP plans, such as local air districts. Consequently, local air districts within a State are subject to the interstate trading provisions contained in this guidance if your EIP allows trading across jurisdictional boundaries.

In order to ensure that all interstate EIP programs are enforceable, the EPA normally requires a ***memorandum of understanding (MOU)***. The requirements for an interstate MOU are in section 16.16.

11.4 What must I submit for approval to show my EIP is consistent with other applicable laws?

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You must submit evidence that your EIP does not discriminate in favor of intrastate commerce and against interstate commerce, in accordance with section 182 (g) (4). You must also submit evidence that your EIP meets any other applicable limitations under the Commerce Clause of the U.S. Constitution. This may be in the form of a letter from your Attorney General's office providing this legal analysis.

The EPA will presume that your SIP meets Commerce Clause requirements with respect to both generation and use of credits without any specific legal analysis from your Attorney General's office if your EIP, by its terms:

- applies equally to all sources to the extent of their in-state activity, regardless of the ownership of the sources; or
- imposes requirements on in-state sources at least as stringent as those imposed on out-of-state sources.

Under section 110(a)(2)(E) of the CAA, EPA may only approve rules that comply with State law - so you must submit evidence that your EIP complies with State law. If your State has requirements that prohibit you from adopting rules that are more stringent than EPA requirements, you must include a discussion of the applicability of those requirements to the State EIP rule. You must also submit evidence that you have made necessary changes to SIP and SIP-related rules, such as your title V Operating Permit program.

Where applicable, you must submit evidence that your State EIP rule is consistent with:

- general conformity requirements,
- transportation conformity requirements, and
- any revisions to the conformity SIP (which establishes your conformity process) that are necessary to accommodate your EIP.

Your submittal should also show how you incorporated the environmental justice element discussed in section 4.2(b) into your EIP. The EPA believes you may reduce the chance of causing disparate impacts based on race, color, or national origin - which are prohibited under EPA regulations implementing Title VI of the Civil Rights Act.

11.5 How long will it take to get my EIP submittal approved by the EPA?

The EPA will try to determine if your EIP SIP submittal is complete within 2 months of receiving it. If the EPA has not determined whether your EIP SIP submittal is complete within 6 months of receiving it, your submittal is considered complete. Once your EIP SIP submittal is found or considered complete, the EPA has 12 months to complete rule making action on your EIP. The EPA intends to act on EIP SIP submissions promptly so as to reduce the amount of time between when you approve an EIP and submit it to EPA and when EPA approves your ***EIP submittal***. If the EPA determines that your EIP

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SIP submittal is incomplete based on 40 CFR 51.103 and 40 CFR part 51 appendix V, the EPA will return your submittal. You may revise your EIP SIP submittal and resubmit it to the EPA.

11.6 What final actions can the EPA take on my EIP SIP submittal?

The EPA may take one of the following five actions when responding to EIP SIP submittals:

- Full approval.
- ***Partial approval/partial disapproval***.
- ***Limited approval/limited disapproval***.
- ***Conditional approval***.
- Full disapproval.

If the EPA approves your EIP into the SIP, then:

- Sources may use the EIP provisions to comply with SIP requirements.
- You may use the emission reductions that result from your EIP to meet your air quality planning requirements.
- The EPA may take enforcement action against sources participating in your EIP for violating the EIP.
- Citizens may sue sources for failing to comply with your SIP-approved EIP.

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11.7 What does it mean if the EPA does not fully approve my EIP?

When your entire EIP SIP submittal meets all the requirements of the CAA and this guidance, the EPA will fully approve your entire EIP SIP submittal. In general, there are three alternatives to full approval or full disapproval of a complete EIP SIP submittal:

- Partial approval/partial disapproval.
- Limited approval/limited disapproval.
- Conditional approval.

All three of these alternatives constitute rule making action and therefore are subject to public notice and comment processes.

If the EPA does not fully approve a SIP submittal for a compliance flexibility EIP, the EPA may also determine that full credit cannot be given for emissions reductions for purposes of demonstrating attainment of the standard. You are not under any obligation to submit a revised version of the EIP addressing the EPA's concerns. However, you will otherwise need to address any gap that is created by the limited credit that can be given for emissions reductions. While your State will not suffer sanctions or a Federal implementation plan (FIP) if you fail to submit such a revised EIP, sanctions or a FIP may be necessary for purposes of an attainment demonstration.

If the EPA does not fully approve a SIP submittal of a programmatic reduction EIP, the EPA will not include the emission reductions from your EIP when evaluating your air quality management plan. In order for the EPA to approve your air quality management plan, you must provide:

- An approvable EIP that contains sufficient emission reductions to meet the air quality management requirements, or
- Other control measures that will result in sufficient emission reductions to meet the air quality management requirement.

If the EPA disapproves your EIP SIP submittal with full disapproval, limited disapproval, or partial disapproval, the EPA is willing to work with you to develop an approvable EIP rule.

Partial Approval/Partial Disapproval

The EPA uses partial approval/partial disapproval to address the situation where a separable portion of a submittal meets all applicable requirements of the CAA and this guidance relevant to that portion of the rule. The EPA generally issues a partial disapproval concurrent with a partial approval.

Limited Approval/Limited Disapproval

The EPA uses limited approval/limited disapproval to address SIP submittals that contain provisions that meet the applicable requirements of the CAA and this guidance along with other provisions that do not

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meet the requirements, and the provisions are not separable. Under a limited approval/limited disapproval, the EPA's action applies to the entire submittal.

Although the SIP submittal may not meet all of the applicable requirements, the EPA will consider a limited approval only when the EIP SIP submittal as a whole strengthens or maintains the SIP. Concurrent with a limited approval, or within a reasonable time thereafter, the EPA will issue a limited disapproval of the submittal for not meeting all the applicable requirements of the CAA and of this guidance.

Conditional Approval

The EPA uses conditional approval to approve SIP submittals that include in part a written commitment from you to adopt specific enforceable measures by a specific date. You need to specify a date by when you can expeditiously fulfill the commitment. In no case can that date extend more than 1 year beyond the date of EPA's conditional approval. Your written commitment should clearly identify the specific enforceable measures required on your part. If you fail to meet this commitment by the date committed to, the approval will automatically become a disapproval. The EPA will notify you by letter that the approval has converted to a disapproval. You must make the commitment in writing before the EPA conditionally approves the submittal. You must submit the commitment as a revision to your SIP if the commitment materially alters your proposed EIP rule (i.e., it results in changes the public could not reasonably have anticipated through review of the remainder of the submission).

11.8 What happens if I implement my EIP before the EPA approves it?

If you implement the elements of your EIP that require SIP approval before the EPA's approval, and sources use emission reductions associated with your EIP instead of directly complying with SIP-approved requirements, then:

- The EPA may enforce against sources participating in your EIP for failing to comply with their SIP-approved requirements.
- Citizens may sue sources participating in your EIP for failing to comply with their SIP-approved requirements.

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12.0 Running Your Approved EIP

12.1 What are my responsibilities for running my EIP once it is approved?

You are responsible for ensuring that you implement all aspects of your EIP as approved by the EPA to ensure your EIP does not interfere with meeting the goals in your SIP. The following section addresses your responsibilities with respect to enforcement, program evaluation, submitting program evaluation results, program reconciliation, and updating inventories according to the provisions presented in Section 5.

12.2 How must I enforce my EIP?

You are responsible for the following enforcement provisions.

- Determining a violation has occurred and determining the magnitude of a violation.
- Ensuring that provisions for assessing liability in your EIP are enforced as described in the preceding program-specific sections.
- Enforcing the provisions of emission trading EIPs for assessing penalties when a generator or user of emission reductions violates its obligations under your EIP.
- Enforcing the penalty structure in your program such as provisions to make up the differences between your program's objective and what actually happened, plus, where applicable, an additional punitive amount (e.g., surrender of emission reductions by the source in violation) and a monetary penalty equivalent to the one mandated in the CAA.

Note that you may want to use different enforcement procedures depending on the sources included in your EIP. For example, programs involving mobile sources will likely require different enforcement procedures than programs for stationary or area sources.

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12.3 How must I evaluate my EIP?

You are responsible for evaluating your EIP according to the requirements in section 5.3(b) using the evaluation components specified in your EIP submittal. This is in addition to any source-specific evaluations to ensure source compliance. As discussed in section 5.3(b), the purpose of conducting a program evaluation is to compare your EIP's predicted and actual emission reductions.

A possible signal of a problematic EIP is emission levels that are higher than forecasted: either forecasted reductions did not occur, or there was an increase in emissions that was not forecasted. The main function of this periodic evaluation is to ensure that your EIP program has not interfered with the underlying progress and attainment plans. Since part of this evaluation will require evaluation of whether the affected sources and/or rule categories have as projected, you may wish to combine or integrate the EIP and SIP evaluations.

As part of your evaluation program, you may wish to institute field inspection as a requirement for innovative programs. This would be useful for innovative programs for which (1) there is a lack of field data to validate emission reductions or (2) uncertainties have been identified which lend themselves to evaluation via field inspections.

After you have evaluated your program, you must ensure that the results are appropriately reported to the EPA and incorporated into the main components of your air quality attainment plan. Specifically, emissions from participating sources will need to be reported to you so that you can update your emissions inventory (see sections 4.3 on source-specific surplus requirements and 12.5 on emission inventory requirements), transportation conformity determinations, and other plans required by the CAA, such as your RFP/ROP plan, attainment demonstration, or maintenance plan. You may have to submit a SIP revision to properly incorporate these changes.

You are responsible for submitting a report of the evaluation of your EIP to your EPA Regional Office every 3 years[11]. This report will detail each evaluation component examined and whether any problems were found. Also, you must ensure adequate public participation in the evaluation process, as discussed in sections 5.3(b) and 16.5. The results of your evaluation must also be made available to the public upon completion, as discussed in sections 5.1(d) and 5.3(b).

12.4 How must I reconcile any problems?

You must commit in your EIP submittal to implement reconciliation provisions described in section 5.3(c) if the program evaluation shows they are needed. Reconciliation is necessary when program results in higher emissions than expected and those higher emissions interfere with your air quality plans. However, you do not need to include the specific procedures for reconciliation with your SIP submittal,

[11] For EIPs developed solely for the purpose of achieving visibility goals, the regional haze regulations call for evaluations at least every 5 years.

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except for those circumstances described in section 10.0, "Elements of Public Information EIPs." You may select the reconciliation approach that is appropriate for your EIP at the time that program evaluation shows reconciliation is necessary.

12.5 How must I update inventories?

You are responsible for updating your retrospective and prospective emission inventories to reflect the impacts of your EIP. The updated inventories must account for emissions and emission reductions but do not need to reflect short-term emission changes.

12.5(a) Stationary point sources

Projected emissions from point sources participating in the EIP must appear as a line item in your current prospective emission inventory regardless of the size. Each point source identified as a separate line item in your inventory participating in your EIP must submit an emission report to you on an annual basis. You must revise the retrospective emission inventory for that source if a source indicates it generated or used emission reductions in its annual emission report.

Any stationary source that has an emission cap must be included at the capped emission level in the prospective emission inventory unless economic modeling indicates that another source will be emitting those emissions. You may use economic modeling to adjust your prospective inventory to reflect sources that will reduce emissions and sources that will use the emission reductions. If you use economic modeling, your prospective inventory should reflect the results of that economic modeling to show whom you expect will be emitting the emissions.

12.5(b) Area sources

Area source categories participating in your EIP must also be tracked as a separate line item in both the retrospective and prospective inventories. Each area source identified as a separate line item in your inventory participating in your EIP must submit an emission report to you on an annual basis. If participating sources are not separate line items in your inventory, you must adjust the inventory for the area source category if an area source indicates it generated or used emission reductions in their annual emission report.

12.5(c) Mobile sources

For mobile sources, you must ensure that the sources participating in the program provide you with all evaluation information so that you may include this information in your inventories as appropriate.

12.5(d) Accounting for banked emission reductions

You must include all banked (unused) emission reductions in current and prospective inventories. Since these inventories are used for modeling purposes, all emission reductions, including banked emission

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reductions, must have a geographic location. The EPA suggests that you assign banked emission reductions to the generator source until they are transferred to another source. At that point, assign the banked emission reductions to the second source until the reductions are transferred to a third source. If emission reductions are transferred to a party that is not a source (e.g., an agent who facilitates trades) the banked reductions remain assigned to the source who transferred it to the agent until another source has possession of the reductions. If you wish to use a different method to assign locations of banked emission reductions, consult with your EPA Regional Office.

12.5(e) Retiring emission reductions

There will be cases in trading programs where owners of emission reductions may choose to "retire" them - i.e., accept an enforceable limitation never to use or trade the emission reduction again. If an owner chooses to accept such an enforceable limitation, you may remove the emission reduction from the emissions inventory.

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Other Important Information You Need to Know

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13.0 Additional Guidance That Applies to EIPs

13.1 What additional guidance must I use for specific EIPs?

The EPA has released separate, detailed guidance for several specific types of EIPs. These guidance documents supplement the EIP guidance, and you will need to follow both this guidance and the program specific guidance. These supplemental guidance documents pertain to transportation pricing, OMT programs, and mobile source emission reduction programs.

13.1(a) Transportation pricing

The EPA has released two documents to help you implement and quantify the benefits of transportation pricing programs. "Opportunities to Improve Air Quality through Transportation Pricing Programs," - EPA 420-R-97-004, is intended to give State and local air quality and transportation planners and other interested parties the background information needed to consider using pricing programs to achieve better air quality. "Technical Methods for Analyzing Pricing Measures to Reduce Transportation Emissions," - EPA 231-R-98-006, provides quantification techniques which may be used for these measures.

You can obtain both of these documents electronically from the World Wide Web at http://www.epa.gov/oms/transp/traqmkti.htm, or by calling the National Service Center for Environmental Publications (NSCEP) at (800) 490-9198.

13.1(b) OMT programs

As this document is being released, EPA is currently drafting two guidance documents to assist in the development of quantification protocols to be used to quantify emission reductions from strategies used in OMT Programs:

- The *Stationary Source Protocol Guidance Document* (SSPGD) will apply to stationary source strategies.

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- The *Mobile Source Protocol Guidance Document* (MSPDG) will apply to mobile source strategies.

The core elements and technical guidelines laid out in these documents are required for the development of emission reduction strategies used in OMT Programs for VOCs and NO_X. The information in these documents, however, may be useful for other EIPs and other criteria pollutants, and may be used to quantify the benefits of these programs if appropriate. To use these documents for programs other than OMT for VOCs and NO_X, you must obtain approval from your EPA Regional Office. Section 16.3 contains additional information regarding DER measurement.

13.1(c) Mobile source emission reduction credit programs

In 1993 and 1994, the EPA released several documents on the generation of trading emission reductions from mobile source strategies. These documents are designed to help you implement these strategies in conjunction with a contemporaneous trading program (that is, a program where a stream of credits is generated at the same rate that credits are used). "Interim Guidance on the Generation of Mobile Source Emission Reduction Credits" (MERC) published at 58 Federal Register 11133 on February 23, 1993 addresses key issues involved in the generation of mobile source emission reductions in a contemporaneous trading program.

In addition, the EPA's Office of Mobile Sources (OMS) published three technical addenda for sources generating credits entitled:

- Guidance for the Implementation of Accelerated Retirement of Vehicle Programs,
- Guidance for Emission Reduction Credit Generation by Clean Fuel Fleets and Vehicles, and
- Guidance for Mobile Emission Credit Generation by Urban Buses.

Although the EPA originally designed these documents specifically for mobile source Emission Reduction Credit programs, the technical information is generally applicable for use in any trading program where these specific strategies are used to generate emission reductions. You should note that the generators may have to make minor adjustments to the methodologies for specific programs. In addition, for Clean Fuel Fleet Programs, generators of emission reductions may refer to "Lifetime Emissions for Clean Fuel Fleet Vehicles," published by the OMS in October 1993. Modelers may find that this document is more explicit on how to use the MOBILE model to determine the emissions benefit from Clean Fuel Fleet vehicles, which can then be used to calculate credits. You can find copies of these documents on the World Wide Web at the following address:

http://www.epa.gov/oms/fuels.htm#other

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14.0 Mobile Source Guidance You May Use Instead of This Guidance

14.1 What guidance may I use instead of the EIP guidance?

Mobile Source Voluntary Measures programs and ***Transportation Control Measures (TCMs)*** have their own separate guidance, and following that guidance will generally ensure that program is approvable by the EPA.

For TCMs where there is no direct incentive component, following the documents described in 14.1 (b) should ensure that you can count the reductions achieved by your program in your air quality plan. If you are implementing a transportation pricing program, however, you should use this guidance and other EPA guidance on transportation pricing programs described in section 13.1(a).

14.1(a) Mobile source voluntary measures

In October 1997, the Office of Mobile Sources (now known as the Office of Transportation and Air Quality) released "Guidance on Incorporating Voluntary Mobile Source Emission Reduction Programs in State Implementation Plans." You can find this guidance in section 16.4. The ***voluntary measures guidance*** applies to innovative mobile source air quality programs that are voluntary or that are operated by a non-governmental entity. This is a pilot program currently undergoing a 5-year trial, and will be re-examined in 2002. Potential voluntary measures programs include employer-based commuter choice, mobile source public education/outreach programs, small scale financial mechanisms (those producing relatively small emission reductions), "ozone action day" programs, and community-based transportation programs. You may find either the EIP guidance or the voluntary measures guidance to be more appropriate depending on the specific nature of your program. If you submit a program to the EPA under the voluntary measures guidance, you do not need to follow the EIP guidance.

The EPA has limited the administrative requirements of programs developed under the voluntary measures guidance because these programs are smaller in terms of the emission reductions they

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produce, and because they can increase public awareness. You may use the voluntary measures guidance to achieve up to 3 percent of the required reductions for each of the criteria air pollutants or precursor for any applicable SIP requirement. The 3 percent cap per criteria pollutant was instituted because you are not required to play a direct role in implementing these programs, the programs are not directly enforceable against participating parties, and there may less experience in quantifying the emission benefits from these programs. Under the voluntary measures policy, you must make a commitment to conduct and monitor the program, and that you will make up for any reductions which are claimed but not achieved by the program.

You may use the EIP guidance to implement programs which will generate emission reductions beyond the 3 percent limit, or when you have already reached the 3 percent limit under the voluntary measures guidance. Under the EIP Guidance, you are directly responsible for ensuring that program elements are implemented. Your program must be directly enforceable as described in sections 4.0, 6.1, and 12.2. Actions and/or emission reductions by identifiable sources are enforceable by you and/or by the EPA.

To determine the best policy for your program, consider the following.

- Who will implement and operate the program.
- The size of the program, and the cumulative size of all programs you have developed under the voluntary measures guidance
- The enforceability of your program.

In general you should use the EIP guidance to implement transportation pricing programs (e.g., roadway pricing). You may establish direct authority for these programs and EPA-accepted quantification procedures are available.

14.1(b) Transportation control measures

A TCM is any measure of the types listed in section 108(f) of the CAA, or any measure in a implementation plan directed toward reducing emissions of air pollutants from transportation sources by reducing vehicle use or changes in traffic conditions. Under section 182(g)(4) of the CAA Amendments of 1990, any TCM may be considered an EIP. The TCMs specifically listed in the CAA are:

- improving public transit;
- restricting certain roads or lanes, or constructing such roads or lanes for use by passenger buses or high occupancy vehicles (HOV);
- developing employer-based transportation management plans, including incentives;
- developing trip-reduction ordinances;
- developing traffic flow improvement programs that achieve emission reductions;
- establishing fringe and transportation corridor parking facilities serving multiple occupancy vehicle programs or transit service;
- limiting or restricting vehicle use in downtown areas or other areas of emission concentration particularly during periods of peak use;
- providing all forms of high-occupancy, shared-ride services;

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- limiting portions of road surfaces or certain sections of the metropolitan area to the use of non-motorized vehicles or pedestrian use, both as to time and place;
- securing bicycle storage facilities and other facilities, including bicycle lanes, for the convenience and protection of bicyclists, in both public and private areas;
- controlling extended idling of vehicles;
- reducing motor vehicle emissions, consistent with ***title II***, which are caused by extreme cold start conditions;
- developing employer-sponsored programs to permit flexible work schedules;
- developing programs and ordinances to facilitate non-automobile travel, provision and utilization of mass transit, and to generally reduce the need for single-occupant vehicle travel, as part of transportation planning and development efforts of a locality, including programs and ordinances applicable to new shopping centers, special events, and other centers of vehicle activity;
- developing programs for new construction and major reconstructions of paths, tracks or areas solely for the use by pedestrian or other non-motorized means of transportation when economically feasible and in the public interest; and
- encouraging the voluntary removal from use and the marketplace of pre-1980 model year light duty vehicles and pre-1980 model light duty trucks.

To ensure that your State meets the criteria for counting emission reductions in your air quality plan, you should review the following documents:

- "Transportation Control Measure: State Implementation Guidance." EPA document number 450/2-89-020, released in 1990 by the Office of Air and Radiation in conjunction with Region IX. This document lists SIP-approval criteria specific to TCMs. It also directs States to follow general SIP approvability criteria and any additional guidance written on TCMs.

- "Methodologies for Estimating Emission and Travel Activity Effects of TCMs," EPA-420-R-94-002 - released in 1994, guidance on quantifying the benefits of TCMs for SIP purposes.

To approve TCMs in SIPs, EPA Regional Offices use the SIP approvability criteria defined in section 110 of the CAA along with these documents. You can obtain these documents by calling the Transportation Air Quality Center Information line at (734) 214-4100.

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15.0 Special Terms You Need to Know

15.1 Glossary

Actual emissions--means the emissions of a pollutant from an affected source determined by the measured emission rate and, where applicable, the measured production rate of the source during the relevant period.

Air quality-related value (AQRV)--means, for purposes of this guidance, visibility or a scenic, cultural, physical, biological, ecological, or recreational resource that may be affected by a change in air quality as defined by the Federal land manager for Federal lands and as defined by the applicable State or Indian Governing Body for non-Federal lands. [Note: EPA proposed this definition as part of the NSR Reform rule making. See 61 FR 38339, July 23, 1996. EPA is currently reevaluating this definition in the final NSR Reform rule making package, and it will likely undergo some revision. The definition in this guidance will be changed at that time to conform to the definition promulgated for the NSR program.]

Allowable emissions--means the emissions of a pollutant from an affected source determined by taking into account the most stringent of all applicable SIP emissions limits and the level of emissions consistent with source compliance with all Federal requirements related to attainment and maintenance of the NAAQS and the production rate associated with the maximum rated capacity and hours of operation (unless the source is subject to federally enforceable limits which restrict the operating rate, or hours of operation, or both).

Allowance--means an authorization allocated to a source participating in the EIP, to emit one ton of a criteria pollutant, or an ozone precursor, during a specified period of time.

Applicable Inventory--means the emission projections contained in the latest emissions inventory that forms the basis for the EPA-approved demonstration of attainment, reasonable further progress or maintenance.

Area sources--means stationary and non-road sources that are too small and/or too numerous to be individually included in a stationary source emissions inventory.

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Attainment plan--See State implementation plan.

Attainment area--means any area of the country designated or redesignated by the EPA at 40 CFR Part 81 in accordance with section 107(d) as having attained the relevant NAAQS for a given criteria pollutant. An area can be an attainment area for some pollutants and a non-attainment area for other pollutants.

Banking--means the holding of emission reductions for future use.

Baseline--means the level of emissions, or emission-related parameter(s), for each affected source or group of affected sources, from which program results (e.g., quantifiable emissions reductions) shall be determined. At the programmatic level, for an ozone attainment SIP, this generally means the total of actual VOC or nitrogen oxides emissions from all anthropogenic sources in an O_3 non-attainment area during the calendar year 1990 (net of growth and adjusted pursuant to section 182(b)(1)(B) of the CAA), expressed as typical O_3 season, weekday emissions (although in some cases, the calendar year may vary).

Best available control technology (BACT)-- is the control technology requirement that applies to major sources and modifications that are subject to Prevention of Significant Deterioration. This is defined in CAA title I Part C Subpart 1 sect. 169 (3) and 40 CFR part 51.166(b)(12).

Clean air investment fund (CAIF)--means a program in which sources participate by paying a designated fee in lieu of making on-site emission reductions, and the fund's manager acquires emission reductions elsewhere with the fees paid by the participants.

Cap-and-trade program--means an emission trading program that limits the total emissions from the sources participating in the program. The program also allows participating sources flexibility in complying with their emission limits through the trading of allowances among sources included within the scope of the cap.

Carbon monoxide--a criteria pollutant.

Civil Rights Act–means the statute enacted under 42 U.S.C. section 2000d, et. seq.

Class I areas--as defined in sections 162(a) and 164(a) of the CAA, means those international parks, national wilderness areas (including certain national wildlife refuges, national monuments, and national seashores) that exceed 5,000 acres, national memorial parks that exceed 5,000 acres; and national parks that exceed 6,000 that existed on August 7, 1977 (the date of enactment of the CAA Amendments of 1977) plus Northern Cheyenne, Fort Peck, and Flathead Indian Reservations in Montana and the Spokane Indian Reservation in Washington.

Clean fuel fleet program--Federally mandated clean fuel fleet programs refer to the fleet requirements described in 40 CFR Part 88 applicable to designated serious, severe, or extreme nonattainment areas with 1980 populations greater than 250,000. Other areas may adopt clean fuel fleet programs which

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encourage the use of low emission vehicles using alternative fuels or cleaner gasoline. Non-federally mandated programs which achieve emission reductions beyond those already credited through other state and federal programs may be implemented using an EIP.

Clean Air Act (CAA)--means the statute enacted under 42 U.S.C. 7401 et seq.

CO season--generally means the winter months or cold season in areas that exceed the CO national ambient air quality standard.

Community of concern–means a community that experiences higher adverse health impacts relative to other communities in the surrounding area. Approaches for identifying these communities are discussed in section 16.2(d) of this guidance ("How do I determine which communities need special protection?").

Compliance flexibility EIP--means an EIP that provides sources with flexibility to comply with existing or future SIP requirements.

Compliance margin--refers to the cushion that occurs when a source intentionally emits less than its allowable emission limit in order to protect itself against noncompliance due to minor increases in emission rates from normal fluctuations in process operations or control equipment.

Conditional approval--means a rulemaking the EPA uses to approve SIP submittals that include a written commitment from the State to adopt specific enforceable measures by a specific date.

Contemporaneous--means emission increases and decreases that occur within the same compliance period.

Contingency measures--means any emission control measure that is adopted into the SIP which shall be implemented whenever there is a failure to meet the ROP requirement in section 185 of the CAA or a failure to attain a NAAQS as projected in an approved attainment demonstration.

Continuous emission monitoring system (CEMs)–means the total equipment required to determine a gaseous or particulate concentration or emission rate. The system consists of the following major subsystems: a sample interface, a pollutant analyzer, a diluent analyzer (if applicable), and a data recorder. A CEMs completes a minimum of one cycle of operation (sampling, analyzing, and data recording) for each successive 15-minute period.

Control technique guidelines (CTG)--means a series of documents prepared by EPA to assist States in defining reasonably available control technology (RACT) for sources of volatile organic compounds (VOC). The documents provide information on the economic and technological feasibility of available techniques; and, in some cases, suggest limits on VOC emissions.

Corrective action--means actions that ensure the violation will not occur in the future and that compensate for the environmental damage caused by an emissions violation.

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Criteria pollutant--means a criteria pollutant, as defined in title I of the CAA, includes carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), ozone (O_3), particulate matter (PM), and sulfur dioxide (SO_2).

Curtailment--means a partial reduction in production activity that may be either permanent or temporary.

Declining balance–means an emissions cap for a cap-and-trade EIP that is designed to become smaller over a period of time, so that overall emissions are reduced.

Discrete emissions reductions (DERs)--means emission reductions generated over a discrete period of time, and measured in weight or mass (e.g., tons).

Discretionary EIP--means any EIP submitted to the EPA as an implementation plan revision for purposes other than to comply with the statutory requirements of sections 182(g)(3), 182(g)(5), 187(d)(3), or 187(g) of the CAA (i.e., not a mandatory EIP).

Double-counting--means the use of emission reductions to meet more than one program's requirements.

Economic incentive program (EIP)--means a program which may include State established measures directed toward stationary, area, and/or mobile sources, to achieve emissions reductions milestones, to attain and maintain ambient air quality standards, and/or to provide more flexible, lower-cost approaches to meeting environmental goals.

EIP submittal--means the document provided by a State to the EPA that contains the information that the EPA will review to determine whether the State's proposed EIP is approvable as a SIP revision.

EIP rule--means the regulatory language adopted by the State that precisely describes the structure of an EIP and the requirements that apply to the sources who participate in the EIP.

Emission allocation--means the amount of the emissions in a cap-and-trade program assigned to each emission source when the emissions covered by the program are divided up among the affected category or group of sources. (Source: 40 CFR 72.2)

Emission averaging EIP--means an EIP that provides a source or group of sources (typically stationary sources) flexibility in complying with a rate-based regulatory limit by averaging the rate of pollution it emits with another source.

Emission budget--means the total emissions associated with a multi-source emission cap-and-trade program.

Emission cap--when associated with source-specific requirements, means the limit on emissions measured in mass or weight per unit of time during the compliance period (e.g., pounds of VOC per day, tons of NO_X per ozone season). When associated with multiple sources, an emissions cap is the limit on the total emissions - measured in mass or weight per unit of time during the compliance period -

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from sources participating in the program that allows those sources flexibility in complying with their emission limits.

Emission inventory--means a listing of the quantity of pollutants being emitted from sources within a geographic boundary (i.e., country, State, nation). The listing can be broken down into point (individual facilities), area (other stationary sources), mobile (on-road and non-road), and biogenic emissions. Ancillary information such as stack parameters, activity data, and vehicle type are also considered part of an emission inventory.

Emission quantification protocol--means the technical procedure a source uses to calculate the amount of emissions or emission reductions associated with that source's activities under an EIP.

Emission shift–means a change in the spatial or temporal distribution of emissions within an area as a result of an EIP.

Emission shortfall--as defined in 40 CFR 51.492

Emission trading policy statement (ETPS)--published at 51 Federal Register 43814 on 12/4/1986.

Emission unit--means any mobile source, area source or part of a stationary source which emits or would have the potential to emit any pollutant subject to regulation under the CAA.

Enforceable–one of the four fundamental integrity elements; associated with programs where emissions and other required actions are independently verifiable, program violations are defined, those liable can be identified, you and the EPA maintain the ability to apply penalties and secure appropriate corrective action where applicable, citizens have access to all the emissions related information obtained from the source, and citizens can file suits against sources for violations.

Environmental benefit–generally means for programmatic reduction EIPs, increased or more rapid emission reductions. For compliance flexibility EIPs, environmental benefit means reducing the amount of surplus emission reductions generated for use in the EIP by at least 10 percent. In addition, environmental benefit can also mean improved administrative mechanisms (e.g., that achieve emissions reductions from sources not readily controllable through traditional regulation), reduced administrative burdens on regulatory agencies that result in increased environmental benefits through other regulatory programs, improved emissions inventories that enhance and lend increased certainty to State planning efforts, and the adoption of emission caps which over time constrain or reduce growth-related emissions beyond traditional regulatory approaches.

Environmental justice–means the fair treatment of people of all races, cultures, incomes, and educational levels with respect to the development and enforcement of environmental laws, regulations, and policies. Fair treatment implies that no population should be forced to shoulder a disproportionate share of exposure to the negative effects of pollution due to lack of political or economic strength.

EPA's 1994 EIP rule - published at 59 Federal Register 16690 on 4/7/94.

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Federal land manager (FLM) -- Federal Land Manager means the Secretary of the department with authority over the Federal Class I area (or the Secretary's designee) or, with respect to Roosevelt-Campobello International Park, the Chairman of the Roosevelt-Campobello International Park Commission.

Financial mechanism EIPs--means a type of EIP that includes fees, taxes, or subsidies targeted at promoting pollution reducing activities or products.

Flow control--means a restriction on emission allowances used, or in the case of CAIFs restriction on payments into the fund, to manage or stop, their use at certain times, or within certain areas.

Foregone emission reduction--means an emission reduction that would have taken place if not for the ability of a source to participate in an EIP in order to avoid making that reduction.

Fugitive emissions--as defined in 40 CFR 51.165, means those emissions that could not reasonably pass through a stack, chimney, vent, or other functionally-equivalent opening.

Hazardous air pollutant (HAP)-- means any air pollutant listed pursuant to CAA title I Part A subpart 112 (b) as a hazardous pollutant. This section of the CAA lists over 200 specific pollutants that EPA can revise using certain procedures.

Historical activity level--means the activity level associated with a source in a time period prior to the source's participation in the EIP, usually representing the average activity level of the past two years or some other more representative period.

Historical actual emissions--means the actual emissions associated with a source in a time period prior to the source's participation in the EIP, usually representing the average emissions of the past two years or some other more representative period.

Indirect source--means a facility that does not emit pollution in significant amounts and attracts mobile sources that do emit pollution such as shopping centers and sports arenas.

Inter-credit trading--means the acquisition and use of an emission reduction generated under an EIP to meet the requirements of another EIP or air quality related program.

Inter-precursor trading--means the acquisition and use of a tradable emission reduction for one type of precursor pollutant to meet the compliance requirement for another type of precursor pollutant.

Interstate trading--means the transfer of ownership of a tradable emission reduction between a buyer and seller in different States.

Inter-temporal trading--means the transfer of ownership of a tradable emission reduction that occurs after the action that reduces emissions.

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Lead (Pb)--a criteria pollutant. EIPs should not be used to address lead emissions.

Liability-in this context means responsibility for violations.

Limited approval/limited disapproval--means an EPA rulemaking action that addresses SIP submittals which contain provisions that meet the applicable requirements of the CAA and this guidance along with other provisions that do not meet the requirements, and the provisions are not separable.

Long-term averaging--means the averaging of emissions over a compliance period longer than source-specific requirements associated with programs in place to meet NAAQS.

Lowest achievable emission rate (LAER)--means the control technology requirement that applies to major sources and modifications wishing to construct in or impacting nonattainment areas as defined in CAA Part D Subpart 1 sect. 171 (3), and at 40 CFR 51.165(a)(1)(xiii).

Maintenance area--means an area for which the State is currently seeking designation or has previously sought redesignation to attainment, under section 107(d) of the CAA, which provides for the continued attainment of the NAAQS.

Maintenance plan--means an implementation plan for a maintenance area.

Mandatory EIP--means an EIP that the CAA requires a State to adopt under sections 182(g)(3), 182(g)(5), 187(d)(3), or 187(g) of the CAA.

Mass-based emission reduction banking--means emission reduction actions which result in a discrete amount of emission reductions over a specific, finite time period.

Maximum achievable control technology (MACT)-- means the control technology requirement defined by CAA section 112 (d) that applies to major sources of HAPs that are subject to national emission standards for hazardous air pollutants (NESHAP).

Memorandum of understanding (MOU)--means a document in which two or more parties, usually a State/local agency and another State/local agency or the State/local agency and the EPA, outline or detail their mutually agreed upon obligations to perform certain acts in furtherance of the implementation of the CAA objectives.

Metropolitan planning organization (MPO)-- means the organization designated as being responsible, together with the State, for conducting the continuing, cooperative, and comprehensive planning process under 23 U.S.C. 134 and 49 U.S.C. 1607. It is the forum for cooperative transportation decision-making.

Mobile sources--means on-road (highway) vehicles (e.g., automobiles, trucks and motorcycles) and non-road vehicles (e.g., trains, airplanes, agricultural equipment, industrial equipment, construction vehicles, off-road motorcycles, and marine vessels). 40 CFR 51.491

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Monitoring, record keeping, and reporting (MRR) procedures--means those source- or source-category specific procedures included as requirements in the EIP that provide reliable and timely information about emissions baselines, emission reductions, total emissions and compliance associated with sources' participation in the EIP.

Multi-source emission cap and trade--means an emission trading EIP that limits the total emissions from a certain category or group of sources to a level needed for an area to attain or maintain a NAAQS, and allows sources flexibility in complying with their emission limits.

National ambient air quality standards (NAAQS)--means a standard set by the EPA at 40 CFR Part 50 under section 109 of the CAA.

National emission standards for hazardous air pollutants (NESHAP)--means emission standards established under section 112 of the CAA. These standards require major sources of HAPs (sources that emit at least 10 tons per year of a single HAP, or at least 25 tons per year of a combination of HAPs) to reduce HAP emissions using maximum achievable control technology, or MACT.

Needing and lacking demonstration (NALD)--means a non-attainment area for which a State is currently required under the CAA to submit an SIP for attainment demonstration, but has not done so.

New source performance standards (NSPS)--means a technology-based standard that applies to new sources, under section 111 of the CAA.

New source review (NSR)-- means the pre-construction requirements that apply to new sources and modifications as defined in 40 CFR 51.165.

NSR offset -- means an emission reduction requirement that applies to major sources and modifications wishing to construct in nonattainment areas as defined in CAA 173(a)(1)(A) and 173(c); also see 40 CFR 51.165(a)(2) and (3).

NSR netting -- means the intra-plant trading that sources can do to avoid major NSR (including PSD) requirements. This is defined in 40 CFR 51.165(a)(1)(v)(A) and (a)(1)(vi). Also consult 40 CFR 52.21(b)(2)(i) and (b)(3) for PSD netting.

Nitrogen dioxide (NO_2)--a criteria pollutant.

Non-attainment area--means any area of the country designated by the EPA at 40 CFR Part 81 in accordance with section 107(d) of the CAA as non-attainment for one or more criteria pollutants.

NO_X budget trading program--means that program as provided for in 40 CFR part 96.

NO_X limited--means conditions that occur when ozone formation/accumulation is reduced or prevented because there is an insufficient amount of ambient Nox to participate in chemical reactions. Under these conditions, controlling Nox further would be the most effective means for reducing ozone formation.

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NO_X MOU regulation–means a regulation implementing the Ozone Transport Commission Memorandum of Understanding dated September 27, 1994.

NO_X SIP call--means that regulation promulgated under 40 CFR part 51. (Note: On May 25, 1999, the U.S. Court of Appeals for the D.C. Circuit granted a motion to stay the SIP submission deadline established under the NO_X SIP Call until further action by the court. The Agency will notify the States if any further decisions are made by the EPA regarding the NO_X SIP Call in light of the May 25, 1999 decision, or other subsequent court ruling. The final EIP's references to the NO_X SIP call will reflect whatever outcomes occur due to court ruling or EPA action.)

Open-market trading (OMT)--means an emission trading program that gives sources flexibility in complying with a variety of rate-based emission limits required in a SIP. An OMT program includes two distinguishing components: (1) emission reductions are generated during a discrete period of time and quantified in units of mass; and (2) emission reductions are used some time after they are generated (i.e., use and generation do not occur contemporaneously).

Open market trading rule--proposed policy statement and model rule published at 60 Federal Register 39668 on 8/3/95.

Ozone (O_3)--a criteria pollutant.

Ozone season--means that period of time, for a particular area, which has the potential for measured ozone concentrations to exceed the ozone NAAQS and which has been designated for ozone monitoring by the Regional Administrator in 40 CFR 58, Appendix D. This ozone season establishes monitoring requirements for judging compliance with the NAAQS.

Partial approval/partial disapproval--means a rulemaking action on a SIP submittal that the EPA uses to address the situation where a separable portion of a submittal meets all applicable requirements of the CAA and this guidance relevant to that portion of the rule.

Particulate matter (PM)--a criteria pollutant.

Permanent–one of the four fundamental integrity elements; means emission reductions for which you are able to ensure that no emission increases (compared to emissions if there was no EIP) occur over the time defined in the SIP, for compliance flexibility EIPs. For programmatic reduction EIPs, the emission reductions are permanent if you are able to ensure that these reductions occur over the duration of the EIP rule, and for as long as they are relied on in the SIP.

Prevention of Significant Deterioration (PSD)--as defined in 40 CFR 51.166.

Product certification--means a label showing the energy efficiency of an appliance; part of a public information program.

Program evaluation--means the process of retrospectively assessing the performance of an EIP.

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Programmatic reduction EIP--means programs that achieve emission reductions beyond what are currently in the SIP to meet SIP or SIP-related requirements.

Public information EIP--means a specific type of EIP that provide emission reductions through public education, product certification, or content disclosure.

Quantifiable-- one of the four fundamental integrity elements; means you can reliably and replicably measure or determine emissions and emission reductions attributed to your EIP.

Quantification protocol--means a plan that describes how the quantity of emissions are measured or estimated by accurate and replicable techniques.

Rate-based emission reduction banking--means a reduction strategies which results in a permanent, continuous stream of emission reductions.

Rate-based limit--means a compliance requirement expressed as mass of emissions per activity level.

Rate of progress (ROP)--means a SIP providing for the incremental emission reductions required by section 182(b)(1) and 182(c)(2)(B) of the CAA.

Reasonable further progress (RFP)--means such annual incremental reductions in emissions of the relevant air pollutant as are required by this part or may reasonably be required by the Administrator for the purpose of ensuring attainment of the applicable NAAQS by the applicable date. CAA Sect. 171, 40 CFR 51.492

Reasonably available control technology (RACT)--means devices, systems, process modifications, or other apparatus or techniques that are reasonably available.

Reference concentration--an estimated concentration of a pollutant (milligrams per cubic meter) that is not likely to present a appreciable risk of deleterious noncancer effects during a lifetime. The estimate is based on continuous inhalation exposure to the human population that includes sensitive subgroups. It has an uncertainty that may span an order of magnitude.

RFP demonstration--means a showing that a State can reasonably achieve the annual incremental reductions in emissions of the relevant air pollutant required by regulations, or that may be reasonably required by the EPA Administrator to ensure attainment of the applicable NAAQS by the required date (refer to sections 171(1) and 172(c)(2) of the CAA).

RFP plan--means the State's plan to achieve any incremental emissions reductions required by the CAA (see CAA sections 182(b) for ozone, 187(d) for CO, and 189(c) for PM) and approved by the EPA as meeting these requirements.

Reconciliation procedures--procedures used to rectify differences between forecasted and actual emission reductions associated with the EIP.

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Regional haze--Regional haze visibility impairment means any humanly perceptible change in visibility (light extinction, visual range, contrast, coloration) from that which would have existed under natural conditions that is caused predominantly by a combination of many sources, over a wide geographic area. Such sources include, but are not limited to, major and minor stationary sources, mobile sources, area sources, fugitive emissions, and forestry and agricultural practices.

Reliably--means repeated application obtains results equivalent to EPA-approved test methods.

Replicably--means different users obtain the same or equivalent results.

Rural area--means all areas not included in the definition of urban areas.

Shortfall--means the difference between the amount of emissions reductions relied on in an implementation plan for a particular EIP and those that are actually achieved by that EIP, as determined through an approved reconciliation process. 40 CFR 51.492

Shutdown--means a total, permanent cessation of production activity at a source.

SIP-related requirement--means any regulation or supporting documentation that is required by the CAA but is not contained or referenced in 40 CFR part 52. These can include: conformity regulations; emission inventories; operating permits regulations; operating permits issued under State operating permit regulations; any requirement contained in any new source review permit such as, BACT and LAER determinations; limitations on operations or raw materials; emission reductions used for offset or netting purposes; and assumptions used in an attainment demonstration.

Spiking--means any increase in emissions over the amount of emissions which would have occurred without the EIP. An example of how spiking could occur would be if the use of previously created or banked emission reductions exceeded the amount of contemporaneously generated surplus emission reductions. This could occur in an open market program or in a cap and trade program allowing use of previously banked emission reductions.

Source--means any emitter of air pollution, including mobile, area, and stationary point sources.

Source-specific emissions cap--means an EIP that limits emissions measured in mass or weight per unit of time during the compliance period (e.g., pounds of VOC per day, tons of NO_X per ozone season) for a specific source. This type of EIP may also allow sources to sell emission reductions if their emissions are below their source specific limit or buy emission reductions if they wish to emit above their source specific limit.

Stakeholders--means the citizens and representatives of businesses, interest groups, and government whose interests may be affected by an EIP.

State--means State, local government, or Indian-governing body having the authority to submit a SIP.

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State EIP rule--see EIP rule.

State implementation plan (SIP)--means those regulations fully or partially approved by the EPA through a final action adopted in 40 CFR Part 52. SIP is also defined as a plan developed by an authorized governing body, including States, local governments, and Indian-governing bodies, in a non-attainment area, as required under titles I & II of the CAA, and approved by the EPA as meeting these same requirements.

Stationary source--means any building, structure, facility or installation, other than an area or mobile source, which emits or may emit any criteria air pollutant or precursor subject to regulation under the CAA.

Subsidy--a type of financial mechanism EIP.

Sulfur dioxide--a criteria pollutant.

Surplus--one of the fundamental integrity elements; means, in general, emission reductions that are not otherwise relied on in air quality-related programs related to your SIP, SIP-related requirements, other State air quality programs adopted but not in your SIP, Federal rules that focus on reducing precursors of criteria pollutants and all other CAA requirements.

Transportation conformity--means the requirements in 40 CFR Part 93 applicable to MPOs to compare their projected motor vehicle emissions regularly with the SIP emission budgets for motor vehicles, taking into account all regionally-significant transportation projects and other projects intended to generate emission reductions.

Transportation conformity determination--means a determination by the MPO and the U.S. Department of Transportation that an action conforms as required by 40 CFR part 93.

Transportation control measure (TCM)--means any measure listed in section 108(F) of the CAA, or any measure in an applicable implementation plan directed toward reducing emissions of air pollutants from transportation sources by a reduction in vehicle use or changes in traffic conditions. 40 CFR 51.392

Transportation Pricing--means programs that attempt to incorporate the costs of transportation decisions into a price that a consumer sees and pays directly.

Tribe--means for purposes of the CAA, any Indian Tribe, band, nation, or other organized group or community, including any Alaskan Native Village, which is federally recognized as eligible for the special programs and services provided by the United States to Indians because of their status as Indians.

Tribal implementation plan (TIP)--see State implementation plan.

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Unit risk--the upper-bound excess lifetime cancer risk estimated to result from continuous exposure to an agent at a concentration of 1μg/L (microgram per liter) in water, or 1μg/m^3 (microgram per cubic meter) in air.

Urbanized area--means one or more places ("central place") and the adjacent densely settled surrounding territory ("urban fringe") that together have a minimum of 50,000 persons.

Volatile organic compounds (VOCs)--means a class of criteria pollutants that includes hazardous chemicals not otherwise exempted, reactive organic compounds not exempted, photochemical reaction to form ozone.

VOC limited--means conditions that occur when ozone formation/accumulation is reduced or prevented because there is an insufficient amount of organic radicals to provide a significant means for rapidly converting NO to NO2. VOC serves as a source of these radicals. Under these conditions, controlling VOC further would be an effective means for reducing ozone formation.

Voluntary measures guidance--means the guidance dated October 24, 1997 presented in section 16.4 of this guidance.

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15.2 List of acronyms

ABT - Averaging, banking, and trading
AOS - Alternative operating scenarios
AQRV - Air quality-related value
BACT - Best available control technology
CAA - Clean Air Act
CAIF - Clean air investment fund
CEMs - Continuous emission monitoring systems
CFR - Code of Federal Regulations
CTG - Control technique guidelines
DER - Discrete emission reduction
EIP - Economic incentive program
EO - Executive Order
EPA - U.S. Environmental Protection Agency
FIP - Federal implementation plan
FLM - Federal land managers
HAP - Hazardous air pollutant
HOV - High occupancy vehicle
I/M - Inspection/maintenance
KM - Kilometer
LAER - Lowest achievable emission rate
MACT - Maximum achievable control technology
MERC - Mobile emission reduction credit
MMBTU - Millions of British Thermal Units
MOU - Memorandum of understanding
MPO - metropolitan planning organization
MRR - Monitoring, record keeping, and reporting
NAAQS - National ambient air quality standards
NALD - Needing and lacking (an approved attainment) demonstration
NESHAP - National emission standards for hazardous air pollutants
NLEV - National low emission vehicle
NSPS - New source performance standards
NSR - New source review
OMS - Office of Mobile Sources
OMT - Open market trading
PAL - Plantwide applicability limit
PM - Particulate matter
$PM_{2.5}$ - Particulate matter with an aerodynamic diameter less than or equal to 2.5 micrometers
PM_{10} - Particulate matter with an aerodynamic diameter less than or equal to 10 micrometers
PSD - Prevention of significant deterioration
QA/QC - Quality assurance/quality control
RACT - Reasonably available control technology
RFG - Reformulated Gasoline
RFP - Reasonable further progress
ROP - Rate of progress
RVP - Reid Vapor Pressure
SIP - State implementation plan

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SNPR - Model trading rule supplemental notice of proposed rule-making
TCMs - Transportation control measures
TIP - Tribal implementation plan
VOC - Volatile organic compounds

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APPENDICES

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16.0 Appendices

16.1 Special Provisions for Areas Needing and Lacking Attainment Demonstrations (NALDs)

If your EIP covers an NALD area, it must address the following:

16.1(a) Provisions for Compliance Margins

Sources often operate with a ***compliance margin***. Your trading EIP must include provisions to account for compliance margins when sources participating in an EIP are initially complying with an emission limit.

A source uses a compliance margin to protect itself against non-compliance due to minor increases in emission rates from normal fluctuations in process operations or control equipment. The source achieves a compliance margin by intentionally emitting less than its allowable emission limit. In effect, the source is managing its operations to comply with a self-imposed emission limitation that is less than its allowable emission limit.

For example, take a source with an emission limit of 100 units (tons per month, lbs. per MMBtu, etc) and historical actual emissions of 90 units. Its normal operating procedures include a 10 percent compliance margin. A new requirement will limit the source's emissions to 80 units. The source plans to install emission control equipment and emit 70 units. If the source's compliance margin is not accounted for, the source could generate 10 units of emission reductions in an EIP. Based on the facility's historic practice of operating with a 10 percent compliance margin, you could assume that they would have operated at a level of 72 units in order to comply with a limit of 80 units. Accounting for this source's compliance margin means that the source will generate two units of emission reductions for an EIP, not 10 units.

Allowing a source to calculate emission reductions for an EIP without accounting for a compliance margin is acceptable when the source's historical actual emissions are lower than its allowable emissions and historical actual emissions are used to calculate emission reductions for an EIP (such as an OMT EIP). In such a case, the source's compliance margin is inherently included in the emission reduction calculation. When a source is applying a emission control strategy to initially comply with an emission

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limit, its compliance margin is unknown. In such a case, there is no historical actual emission information available for use when calculating emission reductions for an EIP, only the new allowable limit.

Sources often operate with a ***compliance margin***. Your trading EIP must include provisions to account for compliance margins when sources participating in an EIP are initially complying with an emission limit.

Determining which emission reductions are the result of a source's normal compliance margin and which emission reductions are achieved beyond the compliance margin is complex exercise. For simplification purposes, your trading EIP must include provisions requiring sources subject to newly implemented emission limits to assume a 10 percent compliance margin when calculating their emission reductions unless:

- you demonstrate some other value is more appropriate
- your newly implemented emission limit was set assuming the existence of an EIP, and therefore achieves an environmental benefit, or
- your EIP is a multi-source cap and trade program.

See the equations in Sections 7.2 (b), 7.3(b), and 7.5(e) for information on how sources initially complying with emission limits must account for a compliance margin when calculating their emission reductions.

16.1(b) Emission averaging EIPs

The following illustrates the compliance requirement for emission averaging EIPs that cover NALD areas.

$$(1\text{-}EB\text{-}CM) * 3_{i=16n} (ER_i * AL_i) \$ 3_{i=16n} (ER_{act_i} * AL_i)$$

where:

EB =	the environmental benefit adjustment (e.g., 0.1 or greater)	
CM	=	the compliance margin adjustment (0.1), only applicable to sources initially complying with an emission limit with newly added emission control technology
i	=	designation for each unit participating in the trade
n	=	total number of units
ER_i =	the lower of	
		-- the lowest allowable emission rate that applies to unit i, or
		-- the historical actual emission rate of unit i
AL_i	=	activity level for emissions unit i
ER_{act_i}	=	actual emission rate for emissions unit i

Source-specific emission cap EIPs

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If your EIP does cover NALD areas then the following illustrates the compliance equation for source-specific EIPs in equation format:

$$\text{Actual emissions} \# (1\text{-EB-CM}) * 3_{i=1 6n} (ER_i * AL_i)$$

where:

EB = the environmental benefit adjustment (0.1 or greater)
CM = the compliance margin adjustment (0.1, unless the exceptions in section 6.5(g) apply), only applicable to sources initially complying with an emission limit with newly added emission control technology
i = designation for each unit participating in the source-specific cap
n = total number of units
ER_i = the lower of
-- the lowest allowable emission rate that applies to unit i, or
-- the historical actual emission rate of unit i
AL_i = activity level for emissions unit i, usually set at a historical level.

In addition, you may need to apply other adjustment factors when calculating the amount of emission reductions generated or used. These are discussed in further detail under the heading "Adjustments to banked emission reductions" in section 16.15.

16.1(c) Open market trading EIPs

For EIPs that do cover NALD areas the equation for calculating the amount of DERs generated by a particular source is as follows:

$$(1\text{- EB - CM})\,(ER_{all_i} - ER_{act_i})AL_i$$

where:

EB = the environmental benefit adjustment (0.1 or greater)[12]
CM = the compliance margin adjustment (0.1, unless the exceptions in section 6.5(g) apply), only applicable to sources initially complying with an emission limit with newly added emission control technology.
ER_{all_i} = the lower of :
- the lowest allowable emission rate that applies to source i,

[12]Some programs may choose to apply the environmental benefit adjustment at the time of DER use, instead of when the DERs are generated. In such a case, the EB in the equation for calculating the amount of DERs generated would be equal to zero, and the amount of DERs needed for user compliance should by multiplied by (1 + EB).

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- the historical actual emission rate that would have occurred if source i were not generating DERs

ER_{act_i} = actual emission rate that occurs when source i is generating DERs

AL_i = activity level for source i when it is generating DERs

16.1(d) Lifetime of banked emission reductions

Section 16.15 of this guidance discusses the provisions that EIPs must include if they provide for the banking of emission reductions. These provisions include the lifetime of banked emission reductions. If your EIP covers any NALD areas, you must restrict on the lifetime of banked emission reductions. These restrictions may include:

- placing a time limit on banked emission reductions, after which the reductions may not be used (e.g., three to five years maximum)
- discounting banked emission reductions if they have not been used after a certain period of time (e.g., reduce the value of the reductions by 30% after three years)
- discounting banked emission reductions by 50% if you miss one of the following deadlines:
  – any deadlines established for submittals related to your SIP
  – deadlines for regular emission inventory updates
  – any milestones defined in the CAA related to attainment (e.g., rate of progress milestones)

You should choose the restrictions you will place on banked emission reductions appropriately, based on your knowledge of the sources participating in your EIP, and the availability and supply of emission reductions.

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16.2 VOC EIPs involving hazardous air pollutants (HAPs)

States and localities must reduce NO_X and VOCs to attain the ozone air quality standard. To achieve these reductions, State and local agencies must adopt and incorporate programs into their SIPs that require facilities to reduce these pollutants. In some cases States are adopting EIPs covering VOCs. These EIPs may redistribute emission reductions or allow sources to pay a fee in lieu of reducing emissions, presumably to a source where reductions are less expensive. Typically, these programs are designed either to reduce the cost of achieving existing emission reduction requirements or to achieve further reductions in a least cost manner. In all cases, EIPs may redistribute emissions among sources and potentially among local communities. In some cases, certain communities may experience higher exposures to emissions as a result of this redistribution of emissions.

In designing VOC EIPs, it is important to recognize that many VOCs are also HAPs as defined by section 112(b) of the Clean Air Act. As a result, most VOC EIPs will inevitably involve HAPs. The public - including members of communities of concern - and EPA are concerned that EIPs could actually result in increases in local HAP emissions or foregone reductions of HAP emissions that could lead to localized increases in air toxics hazard - possibly in areas already subject to disproportionate impacts of air toxics hazards.

Since 1970, EPA and the States have been implementing VOC reduction programs which have reduced VOCs and HAPs dramatically. In the 1990s VOC reductions from command and control programs have become more costly. For this reason, EPA encourages VOC EIPs because the EPA believes that such programs have the potential to result in greater progress toward attaining the NAAQS for ozone at lower costs. At the same time, EPA is concerned about how the redistribution of HAP emissions may impact on communities of concern. The EPA believes that VOC EIPs must address these concerns and, in particular, must be designed to provide appropriate safeguards. This paper identifies basic principles, program elements to evaluate, and options and approaches you should consider in working to achieve the twin goals of designing effective EIPs and assuring appropriate safeguards against localized adverse impacts to public health or the environment. This paper also discusses approaches to help identify areas where localized increases in HAP emissions may be of concern.

16.2(a) What are the basic principles for developing a VOC EIP?

The VOC EIPs should be designed to assure appropriate safeguards against adverse impacts. EIPs should include safeguards to avoid localized impacts from air toxic emissions and any unacceptable health consequences for nearby areas, including low-income and minority communities.

States and localities should have the flexibility to make decisions which can allow for different circumstances in different localities. There is no single prescriptive way to design effective and protective VOC EIPs that meet the needs of all communities. The design of these programs must consider and address the concerns of the local community. In addition, States and local governments

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must make the effort to include low-income and minority neighborhoods that traditionally have not had ready access to the environmental policy -making process.

Sources engaged in EIPs involving VOCs must meet all applicable current and future air toxics requirements. The EPA believes that, ultimately, concerns related to VOC EIPs can be addressed through a comprehensive air toxics program (including MACT, residual risk, and an urban air toxics strategy for stationary and mobile sources), and through a process that provides appropriate EIP safeguards, as outlined below.

16.2(b) What are the required elements for my VOC EIP?

The State or local EIP authority should initially identify HAP related issues that it or the local community is concerned about and use that analysis to design the following **four elements that your VOC EIPs *must* contain.**

1. Your program design must consider options for **prevention and/or mitigation** of unacceptable impacts from potential or actual trades or other types of transactions involving HAPs. This could include prospective and/or retrospective evaluation of the program and could include evaluations of specific trades. Mitigation could include up-front prohibition of certain types of trades, constraints on specific trade amounts, or certain types of programs or after-the-fact changes to address negative impacts. Your final program design must incorporate one or more of these options for prevention and/or mitigation of unacceptable trading impacts.

2. Your program must define **sufficient information** to be made available for meaningful review and participation. This element ensures that all parties have an understanding of what HAPs are involved in the EIP and will provide the necessary information for the next two required elements - public participation and program evaluation. It can also serve as a mechanism to provide broader oversight by the entire community and provide an incentive to facilities to carefully consider the impact of trades or other types of transactions before proposing them.

3. Your program must include **public participation** in program design, implementation, and evaluation of the EIP. You must ensure the public can play a substantial role in building, implementing and evaluating the EIP.

4. Your program must also include periodic **program evaluations**, as part of the ongoing implementation of the EIP, to evaluate the impacts of VOC trades or other types of activities involving HAPs on the health and environment of local communities. You should define the program evaluations as part of your initial program design, including analyses and criteria for assessing whether programmatic and/or activity-specific measures are appropriate to mitigate negative impacts that may have resulted during the preceding time period.

These elements are interconnected, dependent upon each other and on the type of EIP. For example, some types of EIPs are relatively unlikely to allow toxic emissions to increase. Such a program might include the following elements: emission caps consistent with an area's attainment, RFP, and

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maintenance plan; requirements for overall emission reductions; the use of a baseline set with actual emissions rather than allowable emissions; and requirements that each source install VOC RACT technology or appropriate work practices. This type of program has many inherent protections built in and, thus, only minimal additional measures may be needed to address HAP-related issues.

On the other hand, a program that does not include emission caps or requirements for reductions in actual emissions could result in increased toxics emissions in some locations. This type of program would need more HAP-related limitations to provide assurances that activities involving VOCs will not create or exacerbate problems in local communities.

In all cases, the relative emphasis placed on up-front constraints on any activities and on the periodic program review must be carefully weighed early in the program design process (see flowchart element 1). Further, the information requirements (see flowchart element 2), public participation processes (see flowchart element 3), and program evaluation elements (see flowchart element 4) must be designed to provide the necessary information and analysis to understand trends across the overall program and the local community impacts of any activities that occur. This information would also be necessary to support enforcement of preventive measures, and to evaluate potential program revisions to mitigate problems that may have arisen.

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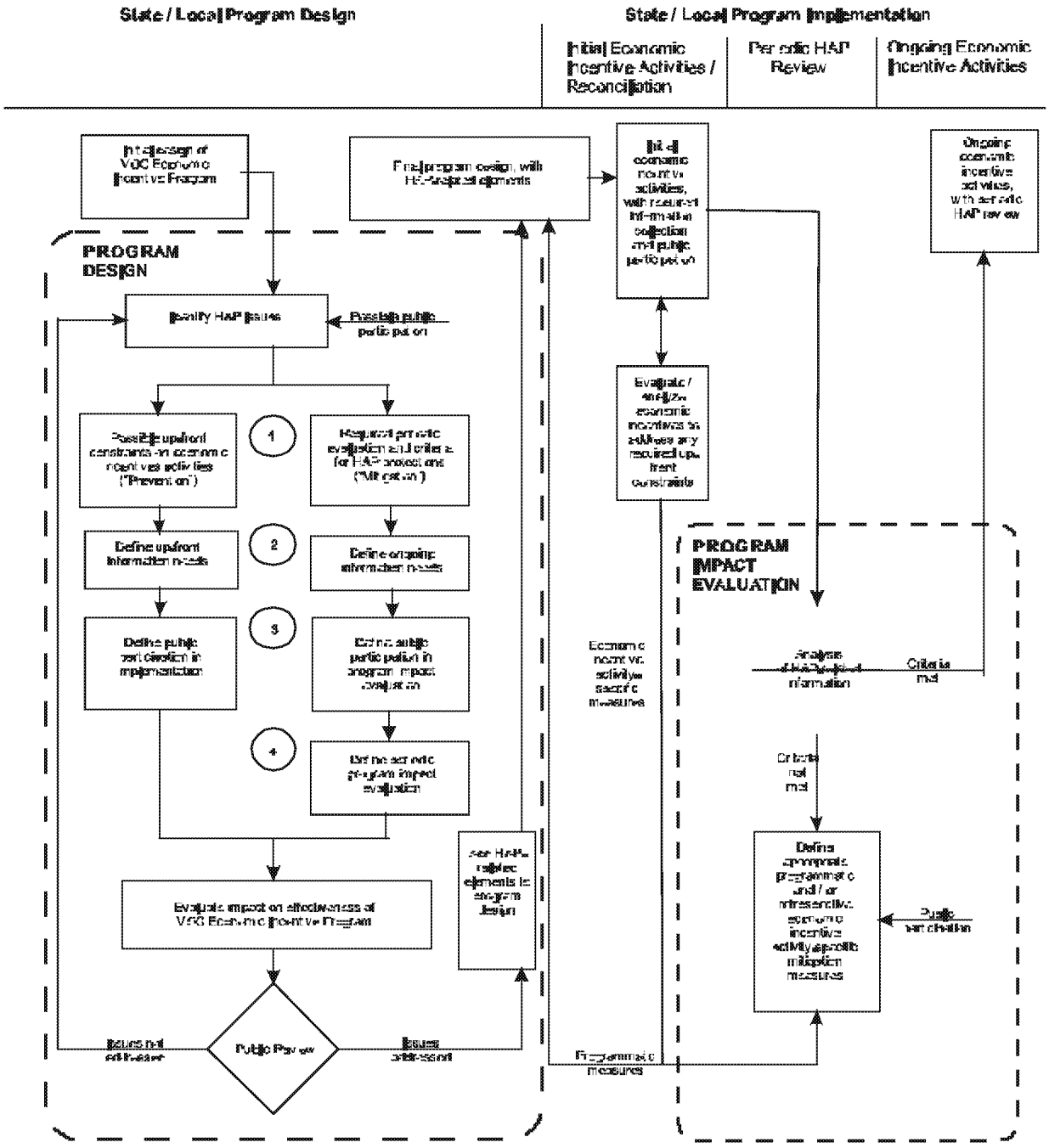
Process for Incorporating HAP-related Program Elements



16.2(c) How can I incorporate HAP related elements into my EIP?

You should take the following into account when you decide how to address the four elements your VOC EIP must contain.

1) Options for Prevention and/or Mitigation of Negative Impacts

If you are developing a VOC EIP, you must provide a means of assuring that your program is unlikely to cause unacceptable localized increases in HAP emissions. The aim, which can be approached either quantitatively or qualitatively, is to:

- avoid adverse effects to people or the environment,
- avoid creating situations where communities are disproportionately impacted by environmental hazards, and
- mitigate existing situations where communities are disproportionately impacted by environmental hazards.

There are various options for providing this assurance that are appropriate for different types of EIPs. Different types of EIPs have inherently different chances of yielding significant localized increases in HAP emissions. A key factor is whether a program allows increases in emission rates or the overall mass of emissions at a source.

Typically, open market trading programs allow emissions to remain above existing rate limitations (e.g., RACT), with compensating emission reductions at another source. As a result such programs must include prevention measures that safeguard against unacceptable localized VOC/HAP emission levels. Cap-and-trade programs, on the other hand, typically impose an emissions cap that requires a reduction in overall emissions, and typically require compliance with existing emission rate limitations. Despite the possibility of emission increases at sources that increase production and do not add emission controls, these program features help assure that a participating source would be unlikely to increase its HAP emissions to unacceptable levels. As a result, cap-and-trade programs in general are less likely to need additional measures to prevent trades that would increase HAP emissions. In most cap-and-trade programs, a retrospective program evaluation is more important for ensuring that the program did not, in fact, create unacceptable localized emission increases. However, this may not be the case for your program, depending upon its design. Regardless of the type of program you choose, you are responsible for making sure it includes adequate safeguards against unacceptable localized emissions.

For programs where measures are warranted for preventing significant localized HAP emission increases before trading or other type of transaction is allowed, various options have been identified, as outlined below. You could use these options singly, or combine them to provide appropriate safeguards for communities.

- The first option would restrict any activities that yield increases in allowable emissions above de minimis levels (i.e., some level of pollutant concentration below which the impacts are believed to be negligible) established on a pollutant-by-pollutant basis. In this option, you could establish

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acceptable increments of risk (for carcinogens) or hazard (for non-carcinogens), and could presumably establish de minimis emission rates based on a simple modeling analysis of the emissions level that would typically cause the concentration for each pollutant that would be estimated to cause the acceptable increment of risk or hazard to be exceeded. Because de minimis levels for most pollutants are not universally established or agreed upon, you should involve stakeholders in the establishment of de minimis levels for your EIP.

- A second option would involve a site-specific analysis for each prospective activity. This has the potential to create significant transaction costs and substantially limit activity. You can minimize this by requiring analysis only in cases that involve an increase of emissions of specified HAPs by more than specified de minimis amounts.

- A third option would establish zones wherein activities that increase HAP emissions would not be allowed, based on preliminary analysis and identification of areas with inequitably high emissions hazard prior to implementation of the EIP. This option most directly addresses concerns that EIPs might increase emissions in areas already subject to inequitably high background levels of emissions. Although the zones are sometimes called "no trade zones", activities that reduce HAP emissions would be encouraged.

- A fourth option is simply not to allow activities that increase emissions of "very hazardous toxics." For example, this restriction could apply to HAPs that are potent carcinogens or for which long or short-term exposure to low concentrations can cause serious non-cancer effects. You should involve stakeholders - especially the affected community - when determining which HAPs the community views as "very hazardous toxics".

- A fifth option is to require that activities involving an increase in HAP emissions also involve a compensating decrease in equal mass emissions of a HAP that is equally or more toxic. While this option assures an area-wide net risk reduction, it is still important to determine if there may be adverse localized impacts caused by this approach.

Many of these options involve consideration of relative toxicities of different HAPs. The EPA has addressed similar issues in its previously proposed section 112(g) hazard ranking. In that proposal, EPA outlines a method for comparing HAPs by their relative hazard to support implementation of offsetting provisions under CAA section 112(g). Stakeholders and developers of programs using these options might find it helpful to consult that effort as well as the tools and information developed by States or local governments. You can find the proposed hazard ranking approach in "*Technical Background Document to Support Rulemaking Pursuant to the Clean Air Act--Section 112(g), Ranking of Pollutants with Respect to Hazard to Human Health (EPA-450/3-92-010)*". You can download this background document from EPA's Technology Transfer Network Economics & Cost Analysis Support (ECAS) website (http://www.epa.gov/ttn/ecas/). When you read this document, keep in mind that while the methodology explained in the background document is still relevant to these issues, the categorization or ranking of HAPs according to health hazard presented in this document is outdated. If you choose to apply this methodology, you should use the most current human health effects data to develop a ranking or categorization which reflects the current understanding of hazard for each HAP. You can find these

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data for many HAPs on EPA's Integrated Risk Information System (IRIS) database (http://www.epa.gov/ngispgm3/iris/index.html.).

The options discussed above are not all inclusive and could be used in combination with each other. They are meant to provide examples of the types of approaches you can use to establish adequate deterrence against problems caused by high concentrations of HAPs.

2) Options for Information Requirements

The information element provides necessary information that will be used in the program evaluation component to evaluate the impacts of VOC EIPs involving HAPs on HAP emissions and potentially on HAP exposures in a State or localized area. The information element should reflect the type(s) of prevention/mitigation options selected. For example, if you choose to prohibit emissions of certain chemicals, you should include emissions of those chemicals in the information reported by facilities. On the other hand, if more detailed hazard analyses are required, then more detailed information should also be required. Where the program design inherently has less potential for unacceptable increases in HAPs to occur, you might design the program to require general, rather than site specific, information to be recorded and reported. For example, if your program incorporates VOC caps, requires overall VOC reductions, and (1) is based on actual VOC emissions or (2) requires sources to install VOC reducing technology, you might allow VOC record keeping to be used to estimate mass and spatial distribution of HAP emissions instead of requiring site specific HAP testing and monitoring. However, you should not use EPA's SPECIATE data base for this purpose. While SPECIATE's outputs are useful inputs for modeling ozone and PM formation, they do not provide specific HAP emission estimates.

You must include monitoring, record keeping, and reporting requirements in the design of your VOC EIP. The following are concepts you must address in including these requirements.

Type of information

Depending on the program evaluation, prevention/mitigation, and public participation elements of the VOC EIP design, different types of information may need to be gathered and reported . The types of information that might be needed include: program-wide HAP emissions information, such as total estimated HAP emissions in VOC streams; the estimated identity of specific HAPs in VOC streams; or the estimated proportion of HAP(s) in VOC streams involved in the program. The program may also require specific area HAP emissions monitoring/modeling information, such as area specific ambient monitoring data of HAP emissions, facility specific HAP modeling information, facility-specific HAP emissions measurements or estimates, including monitored HAP concentrations or mass emissions, quantitative estimates of HAP concentrations from emission factors, test data, and HAP or surrogate monitoring, etc. Depending on the design of the program, information on the spatial distribution of HAPs, either from estimates based on relative VOC/HAP information or measured HAP data, as well as information on HAP toxicity, may also be required. Similarly, population information (numbers of people and sensitive sub-populations), based on either census data or available local community data, may be required.

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Level of detail for each type of information to be reported by States

Depending on the design of the program, information on the types and spatial distribution of HAPs could include a few HAPs that would be used as a surrogate for all the HAPs likely to be involved (i.e., HAPs thought to be of most concern for potential health impacts), or it could include all HAPs. Population information could be reported as area-wide population numbers, as breakdowns in specific local communities within a large area or around particular major sources, or as detailed information across the entire area covered by the EIP.

Frequency of record keeping by sources

At a minimum, sources should track information on a frequency consistent with other air program monitoring, record keeping and reporting requirements, e.g., on the frequency of the compliance requirements of MACT, title I, NSR, and NSPS regulations. Those regulations generally require daily, monthly and/or yearly record keeping. More frequent record keeping could be required in a program to address localized public interests, based on input through public participation in program design/review.

Frequency of reporting

Depending on the design of the program, States could be required to report information as part of a periodic EIP evaluation, or concurrently with VOC inventory requirements, e.g., a minimum of every 3 years. Similarly, sources could be required to report to States on an annual basis or every 3 years.

Currently, EPA asks States with HAP emissions inventories to submit air toxic emissions inventory data to EPA every 3 years, following the same schedule as for the criteria air pollutant inventories. The EPA compiles this data into the National Toxics Inventory (NTI), and updates it every three years. If you compile HAP data as part of your EIP, you must make sure the data is consistent with data you compile for the NTI. This should reduce the reporting burden for you and for industry.

Availability of reports and information

The program design should provide opportunities for all parts of the community impacted by the EIP to obtain report information. You should keep in mind that members of local communities may not have the time, resources, technical expertise, or knowledge of political and administrative processes to access the information reported. You should include special measures to improve the availability of reported information for these local communities.

3) Options for Public Participation

Public participation is important in three phases of VOC EIPs: the program development phase, the program implementation phase, and the mid-course evaluation phase. Public participation is especially important in the program development phase, since this is the best time for the public - especially communities of concern - to provide input on the concerns they may have about VOC EIPs involving HAPs. The EPA views public participation as critical for assuring that concerns throughout the

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community are addressed in the program design. Public participation in the implementation phase, approached in different ways, depending on the design of the program and the nature of public concerns, in some cases will provide for public input on an activity-by-activity basis and in other cases will provide for public input on more specific elements of EIPs. Public participation in a mid-course evaluation phase provides the opportunity for mid-course corrections in identifying and responding to public concerns.

Different forms of public participation may be appropriate for different types of VOC EIPs. An important factor is whether the community has confidence that the VOC EIP will achieve significant emission reductions. Programs viewed as more protective may need less public participation, while those viewed as less protective may prompt more interest in community involvement.

Although the focus of this section is on recommended features of VOC EIPs, these programs must be designed following a suitable process for obtaining public input. Since these programs represent SIP revisions, at a minimum you must satisfy the notice and comment requirements for SIP revisions. However, given the special nature of the programs and the novel issues they raise, the EPA recommends taking additional steps to solicit public input, depending on public interest. For example, you could hold educational forums, solicit comments on multiple drafts of a program design, or hold meetings with interested groups to discuss prospective program features. This is particularly important for involving communities of concern. Section 16.5 provides additional guidance on ensuring effective public participation.

Two factors are critical when you design the appropriate approach to public input during program implementation. First, your approach must reflect a proper balance between adequate opportunity for public input and program efficiency. A program that offers too little opportunity for public input during implementation will not provide the public with the necessary comfort level that the program is, in fact, in its best interests. On the other hand, a program that offers too much opportunity for public input during implementation will make EIPs time consuming and costly and will thereby discourage potential program participants from engaging in otherwise cost-effective programs. For example, a program would need to carefully consider the impact of including up-front public comment on individual activities before the activity could be implemented.

Second, your approach to public input during program implementation must reflect consideration of other program features, including consideration of what decision points during implementation would warrant public input and the level of public comfort with the protectiveness of the program that the program's various design features provide. Ultimately, your approach to public participation in the implementation of a EIP must be appropriate both for the various design features of the program and for the various elements of the public that may be more or less concerned about the program.

You must also provide opportunities for public input during retrospective program evaluations. Approaches to public input during this phase are similar to those during the initial program design phase, except that information on actual program results can now be provided to the public. The approaches you use to obtain public input on retrospective program evaluations must allow mid-course corrections both in the identification of public concerns and in the design of program features that the public is satisfied will address those concerns.

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As discussed for the program development phase, involvement of all aspects of the community in both the program implementation phase, and the mid-course evaluation phase is important. You should recognize the limitations faced by communities of concern in public participation, and design your program to address those limitations.

4) Options for Program Evaluation

Evaluation of VOC EIPs to address HAP-related issues could be both prospective (an up-front evaluation of whether a EIP is likely to create or exacerbate problems due to transactions involving HAPs recognizing that any emission projections have a degree of uncertainty) and/or retrospective (an after-the-fact evaluation to determine if problems have occurred for which mitigation measures are warranted). Several basic approaches to program evaluation are outlined below. An appropriate program evaluation could include one or some combination of these approaches depending upon the underlying design of the VOC EIP. These approaches address questions about potential or actual changes in HAP emissions, and could be extended to also address questions about changes in estimates of health risks.

Broad program evaluation -- Considered across the entire area affected by the EIP, will the overall level of HAP emissions increase or decrease (and, in implementation, are HAP emissions increasing or decreasing)? Additionally, will specific HAPs increase or decrease (and, in implementation, are specific HAP emissions increasing or decreasing)?

Activity-specific review -- Will HAP emissions increase or decrease for specific activities, and for which HAPs (and, in implementation, do individual activities cause HAP emissions to increase or decrease)?

Community-specific analysis -- Do specific areas have a greater level of air toxics emissions or related hazard with EIPs or without EIPs (but with other specific controls that may have been put in place in the absence of an EIP)? Will HAP emissions increase or decrease in specific communities (and, in implementation, are HAP emissions increasing or decreasing in specific communities)?

These approaches could focus on emissions of HAPs, as outlined above, or could look beyond emissions to the potential health impact of the emissions on the population. You could do this through a screening level or more complete exposure or risk assessment approach. Approaches that involve exposure/risk assessment raise additional questions that you need to address, including:

- What methodology will I use for the exposure or risk assessments?
- What role does existing exposure play in decisions?
- What are appropriate criteria for defining negative impacts?
- How might I consider cumulative impacts, if at all?

In addition to deciding what type of approach(es) to use for the program evaluation, you will also need to determine the type of report you will issue to present the results of the program evaluation. For example, who would the report go to, how would you distribute it, and how frequently would you do the

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periodic evaluations? Further, what role would the public play in evaluating/suggesting/commenting on changes to the EIP based on the evaluation? This is a question you should address as part of the public participation element.

It is important to emphasize that the structure and type of program evaluation you develop for your VOC EIP is integrally tied to the information that will feed into the evaluation and to the public participation component of your program since the evaluation will be necessary for public understanding of the effects of the EIP. Additionally, you should also tie program evaluation to the types of prevention and mitigation actions selected. If the primary mitigation approach is to restrict transactions of particularly toxic chemicals, for example, your review and evaluation would concentrate on identifying and evaluating transactions involving those chemicals. You should consider program evaluation approaches during the design phase of the program to prevent potential design issues from causing or exacerbating toxics issues.

16.2(d) How do I determine which communities need special protection?

Your EIP may cover a large geographic area that includes one or more geographically defined communities. You should identify any communities covered by your EIP that may currently be disproportionately impacted. If you find that there are disproportionately impacted communities in the area, you should include additional protections in your EIP, as described in section 4.4.

There are various ways to identify communities that may currently be disproportionately impacted. One way is to compare emissions densities throughout the trading area. Three differing approaches for comparing emissions densities are described below.

- *Toxicity weighted HAP emissions approach*. This approach, preferred to the other two approaches, is a form of hazard analysis, which, takes into account the fact that air toxics differ in the hazard they can pose to exposed populations. This approach has the greatest data requirements of the three.
- *Total HAPs (unweighted) emissions approach*. While this approach does not account for the differences in toxicity among HAPs, it does focus on the HAPs listed in section 112(b) of the CAA.. In doing so, this approach relies on the hazard identification step inherent in this listing.
- *Total VOCs emissions approach*. This method relies simply on total VOC emissions, and may be used for an initial analysis pending the availability of data on HAP emissions. As HAP data for the area become available, you should conduct an analysis that better addresses the difference in toxicity among pollutants.

To compare emissions densities using any of these three measures, you generate an emissions density for each community in the area, and compare them to the average emissions density for the area covered by the EIP. Communities with an emissions density that is much higher than the area's average density could be potential candidates for extra protection. The difference from the area's average density which might be considered the criterion for extra protection candidates will vary depending on the measure used and the precision of the underlying data, as well as the distribution of values among communities in the area.

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To calculate the area-wide and community-specific emissions densities, do the following:

- To obtain the average emission density of the entire area covered by an EIP, divide the total emissions (e.g., mass) for the area covered by an EIP by area covered by the EIP (e.g., square miles).
- To determine each community's emission density, divide the total emissions for each community by the area of that community.

In mathematical terms, you would calculate the emission densities as follows as follows:

$$ED_{total} = 3_{i=16n}\ EM_i/Area_t$$

$$ED_j = 3_{k=16m}\ EM_k/Area_j$$

where:

ED_{total} = the emissions density for the entire geographic area covered by the EIP
EM_i = the emissions from source or source category i
n = the number of sources located in the area
$Area_{t=}$ the total area covered by the EIP
EM_j = the emission density for community j
EM_k = the emissions from source or source category k located in community j
m = the total number of sources or source categories for community j
$Area_j$ = the area in community j

The emissions for these calculation should include data from the current emissions inventory that includes emissions and geographic locations for:

- major stationary sources,
- area sources, and
- mobile sources.

The emissions inventory inputs for your emissions density calculations could be:

- total VOCs,
- total HAPs, or
- HAPs that are weighted by toxicity.

When using the toxicity weighted HAP emissions approach, you should be aware that the method used to quantify carcinogenic hazard differs from the method used for non-cancer effects. Therefore, you must perform two separate sets of calculations:

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- For cancer effects, use the sum of each HAP's emissions multiplied by its inhalation ***unit risk*** *factor*.
- For non-cancer effects, use the sum of each HAP's emissions divided by its ***reference concentration***.

Factors that affect whether you choose to use total HAPs, total VOCs, or weighted HAPs include:

- availability of data, and
- elevated incidence in the community of certain disease(s) (which may or may not be linked to the pollutants traded in your EIP) for which exposure to one or more HAPs has been established as a risk factor.

16.2(e) Summary

The VOC EIPs are an important component of EPA and State efforts to attain the ozone standard. EPA is committed to providing States with opportunities to meet the standard using cost- effective control strategies. Our goal is to encourage EIPs while at the same time establishing some basic level of protections against the potential for community problems associated with VOC EIPs involving HAPs. This section outlines a set of four elements which should be incorporated in all EIPs involving HAPs. When considered in combination with the rest of the air toxics program, these elements -- prevention and mitigation, required information, public participation, and program evaluation -- set in place an overall program that provides a reasonable assurance that local communities should not experience air toxics related problems due to VOC EIPs.

This section has identified a variety of options or approaches that can be chosen to incorporate appropriate HAP-related safeguards into VOC EIPs. When deciding how to apply these elements, you must consider the type of EIP that is being proposed. Programs which are inherently protective, e.g., that significantly reduce overall VOC emissions from baseline emission caps, may allow for less burdensome options to satisfy each of these elements. Programs which provide less assurance of actual reductions may necessitate more restrictive choices. Further, the elements are all interrelated. Choices made for one element will affect the choices made for the others.

You should carefully weigh the HAP-related protections your EIP provides through application of these required elements against the potential burdens they will create. The additional time, transaction costs, and public scrutiny resulting from more restrictive elements can so overburden your EIP that few facilities would likely participate. Therefore, you should carefully consider all of these elements together to construct an optimal combination that provides necessary HAP-related protections without needlessly limiting the effectiveness of the program.

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16.3 Emission quantification protocols for OMT EIPs

To provide a level of certainty to generators and users of emission reductions, and to ensure that emission reductions used for compliance are derived from quality quantification protocols, a EIP rule must provide the basic requirements for developing acceptable quantification protocols for quantifying emission reductions, based on the minimum protocol criteria discussed herein, and the technical guidance documents that expands on those basic requirements. In general, quantification protocols have to contain methods that are credible, workable, enforceable, and replicable.

1. Generic Quantification Protocols

Generic quantification protocols provide generic guidance on applying actual site-specific data to calculate emission increases or decreases that occur during a given period of time. Such protocols would apply generically to a particular source category, and would cite particular quantification techniques. A generic quantification protocol functions as a template that serves as a basic strategy which is customized for application to individual sites. The generic protocol does not contain actual site-specific data or results.

Generic quantification protocols are usually developed from real-world experience with specific sites and specific emission reduction strategies or emission uses. Experience has shown that protocol development process works very well when the following guidelines are followed:

- A multi-stakeholder group reviews the generation or use protocol,
- The same general methodology of calculating emission increases/decreases for the defined class of sources can be used for both generation and use, and
- The State and EPA have been notified of the protocol development project during the period of operation, and have been offered access to the data developed during that project.

Sources must use the Agency-approved emission quantification protocols, if they exist, for a particular generation strategy or use situation. If a source intends to alter an Agency-approved protocol, the source must obtain prior approval from the Agency. If the revised protocol is a DER generation protocol, the generator must obtain Agency approval of the revision before any DERs generated by the protocol are included in a user source's Notice of Intent to Use. If an Agency-approved quantification protocol does not exist, a source develops a quantification protocol that conforms to the Agency minimum development criteria in this guidance and to the relevant Agency-issued quantification protocol development guidance, such as the Stationary Source Technical Guidance Document (SSTGD) or the Mobile Source Protocol Guidance document (MSTDG). The minimum protocol development criteria must appear in an EIP and the appropriate Agency protocol development guidance documents be referenced in the EIP.

In developing a policy for the use of emission quantification protocols in an EIP, the Agency considered a number of cross-cutting factors. On the one hand, both emission sources and compliance authorities have a strong interest in certainty. Federal and State authorities want to be sure that protocols are

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technically sound and that sources can be held responsible for following them. Sources want protocols they can use with assurance of predictable outcomes at the time of compliance determinations. Over the years, several State and industry representatives have echoed these concerns and urged that all protocols be reviewed and approved by the Agency before the emission reductions created using them are introduced into the market. They argued this would give both sources and compliance authorities a common yardstick with which to gauge the validity of emission reductions and the greatest certainty of outcomes, without requiring redundant resource investment by multiple States.

However, the Agency is concerned that a protocol pre-approval requirement would greatly strain governmental resources and significantly dampen development of an open-market system. Given the variety of source types eligible to participate and the variety of emissions reduction strategies available to them, dozens (possibly hundreds) of specific emission quantification protocols would be needed for an EIP. Resource constraints on the Agency and States could severely limit the number of such protocols that could be developed and approved in the near future, even with the benefit of partnerships with industry and others. Many emission reduction generation and use actions could be delayed or precluded by the unavailability of pre-approved protocols and the lack of a process for proceeding without such protocols.

In response to these considerations, the Agency has attempted to develop a middle ground that provides a sufficient measure of certainty and predictability with due regard for governmental resource constraints and the need for flexibility to adapt to new situations. The Agency will attempt to issue the Agency-approved protocols for some activities. To assist in development of new generic protocols, technical guidance for mobile and stationary source protocol development has been developed.

2. Quantification Protocol Submittals

Site-specific data submittals specify how a generic quantification protocol was applied at a source and the results in terms of emission reductions generated or needed for compliance. Site-specific data submittals are described in detail in the SSTGD and the MSPDG.

Outlines are recommended to be followed for generation and use generic quantification protocols and site-specific data submittals. For detailed examples, see the SSTGD.

A generic emission quantification protocol serves as a template that various sources might use to quantify emission reductions. As such, it supplies information that is applicable to multiple sites. The generic protocol should identify, and provide space for, the source-specific information needed to calculate how many credits are generated, or are needed for compliance. The information should be sufficiently detailed to allow evaluation of the validity of the quantity of emissions generated, or the quantity needed for compliance.

A source using a generic quantification protocol (or a source developing its own protocol) also must provide a site-specific data submittal that documents its generation or use action. In addition to specifying the generic protocol that it used (or providing the site-specific protocol), the source, at a minimum, identifies itself and provides information so that "surplus" status (emission reduction generation)

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or allowable emissions (use of emission reductions) can be evaluated. ("Surplus" status and allowable emissions are site-specific, depending on the applicable regulations, permit requirements, the particular trading rules in the source's jurisdiction, and, in nonattainment areas, the features of the attainment/maintenance plan.)

Also, where a generic protocol may apply to a variety of emission reduction strategies and measurement methodologies, the source needs to specify the actual reduction strategy and selected methodology. The site-specific submittal also identifies and explains any deviations from or modifications to the generic protocol. The uncertainty associated with the data and the resulting calculation of the emission reductions needed for compliance are highly recommended to be described and calculated. These discussions, should be quantitative and based on accepted statistical principles. For stationary sources, the Agency recommends, but does not require, the statistical approach presented in the SSTGD to account for measurement uncertainty in calculating the quantity of emission reductions needed. Finally, the site-specific submittal must present the results of the generation or use action in sufficient detail, so that the validity of the emission reduction determination can be evaluated. Statistical issues related to mobile source control strategies are discussed in the MSPDG.

A QA/QC plan that addresses QA/QC techniques for all parameters used to determine the generation and base-case-period emission rates and activity levels must be developed. The elements of a QA/QC plan are: quality control checks and error assessments; data accuracy assessment; minimum data availability; reporting and record keeping; personnel responsibilities; schedule of QA/QC activities; and preventive maintenance procedures. (See section 10.0 of the SSTGD for a detailed discussion of the suggested content of a QA/QC plan stationary sources. Statistical issues related to mobile source control strategies are discussed in the MSPDG.)

3. Stationary Source Protocol Development Criteria

The EIP guidance (section 4.0) requires that eligible credits must be surplus, quantifiable, enforceable, and permanent. These stationary source protocol development criteria address only the issue of quantification, and do not address the determination of whether the credits are surplus, enforceable, or permanent.

An OMTR must contain protocols that meet the following criteria for stationary sources:

a. The source must collect enough data to characterize the process for all representative phases of source operation under which emission reductions are created or used (e.g., if a facility's emission rate is related to load than a facility cannot test only at full load if the facility generates or uses emission reductions at times when it is running at less than full load. This criterion applies to base case and generation or use phases of data collection. Facilities whose emission rates are not related to load need to provide explain how the data provide is characteristic of the process).

b. Instrumentation must have sufficient sensitivity, selectivity, precision, accuracy and range to measure the applicable parameters to characterize source operation (e.g., flow rate, temperature, etc.)

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c. To quantify the number of emission reductions generated or needed for compliance, a source must use measurement techniques at least as rigorous as the methods referenced in their rules for demonstrating compliance.

d. Documentation must include the following:

1) An explanation of the rationale for choosing a particular measurement method;

2) Example calculation that describe all data and equations needed to calculate emission reductions;

3) Documentation of where all data are located (in case further examination is desired), including all test runs (not just a few selected ones);

4) A description of how the activity level is measured and how the protocol deals with missing data using conservative assumptions; (See Section 3.1 of the SSTGD for examples)

5) Information on source operation or process levels for the base case emission rate and the generation period or use period emission rate. (i.e., at Facility A the boiler was running at 1000 BTUs during both the base case and generation period)

e. Submittal and adherence of a Quality Assurance/Quality Control (QA/QC) plan for measurement data collection. (See Section 11 of the SSTGD for details) For non-measurement procedures describe QA/QC techniques used to evaluated the quality of the data.

f. Discussion of whether or not bias exists. If bias does not exist explain steps taken to avoid bias. If bias does exist, the protocol explains how it accounts for and adjust for bias. (The technique for determining the degree of bias may be quantitative or qualitative depending on the measurement technique. For instrumental methods a quantitative calculation may be need while for recordkeeping a qualitative explanation may be sufficient.)

g. Use the units "pounds of VOC per gallon of solids applied" for coating and printing operations.

h. If a reduction strategy described in a stationary source protocol results in some shifting of production or an increase in activity level by another unit or units and results in an increase in emissions to these units, then the amount of emissions that are increased by the strategy is calculated and the amount of emission reductions reduced accordingly. The estimation of the emission increase is explained fully.

i. NO_x emissions are measured as NO and NO_2 but reported on a NO_2 basis.

j. Sources must us applicable Agency test methods (if available) or demonstratively better method (following existing policy for alternative method approval - Method 301)

k. VOC emissions are calculated on the basis of actual emissions if the source uses speciated measurement techniques. If the source measures VOC emissions based on a surrogate compound, but information is available on the emissions composition, then the VOC emissions are calculated based on the known composition. If the emission composition is not known, then measured VOC emissions are calculated on the basis of propane.

l. If a source has actual emissions data, the source must use that data.

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m. Sources must use CEMS or predictive emission monitoring systems (PEMS) if they are already in place.

n. 40 CFR part 60, appendix F, Continuous Quality Assurance Procedures be applied to CEMS and the EPA's performance specifications applied to PEMS.

o. Protocols should discuss how surplus is addressed (see section 4.0 of the EIP guidance).

4. Mobile Source Protocol Development Criteria

An EIP must contain the following protocol development criteria for mobile sources:

a. Baseline Issues

(1) Use of Historical Baselines. Because of the effects of fleet turnover, fleet average emission factors for mobile source are declining. As a result, the use of historical fleet average emission factors (i.e., emission factors modeled for previous calendar years) as a baseline for emission reduction quantification is never appropriate for mobile sources because this would result in credit being taken for normal fleet turnover. Instead, most mobile source baselines will be based on what emissions would have been in the year of credit generation or use if the actions taken to generate or use the Emission reductions were not taken. Although the use of historical fleet average emission factors is not appropriate, the use of historical fuel characteristics, such as RVP, or the use of historical emission factors for individual vehicles or engines will often be necessary to determine what emissions would have been had the emission reductions not been generated.

(2) Historical Compliance Margins. All baseline emission calculations must take into account historical compliance margins for the control parameter in question. The historical compliance margin should be based on the individual generator's past performance in meeting the requirement. In the case of a new requirement, generators of emission reductions could use either the individual generator's past performance in meeting past requirements or the industry average compliance level during the period of generation.

(3) Baseline for New Vehicle Purchases. For generation strategies involving the purchase of new vehicles or engines, baseline emissions are defined as the emissions of new vehicles or engines meeting the emission standards required at the time emission reductions are generated. As a result, emission reductions cannot be generated simply by purchasing new vehicles or engines, unless the old vehicles or engines are scrapped as part of a scrappage program. In the absence of a scrappage program, emission reductions are calculated as the difference in emissions between new vehicles meeting current standards and new vehicles meeting the lower emission standard.

(4) Interaction with Averaging or ABT Provisions. Many mobile source programs have internal provisions that allow for ABT for compliance. Because emissions reductions can only be claimed once, protocols based on mobile source control programs that are also subject to internal ABT provisions must include a demonstration that the emission reductions claimed are surplus to the calculation of the

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average level needed to comply and/or that they are not being banked or traded for purposes of compliance.

For example, in order to generate emission reductions, a refiner meeting the RFG requirements from a particular refinery through averaging would have to show that it still meets the averaging limit when the emission reduction-generating fuel was excluded from the calculation of the average for all of the refinery's RFG production.

b. Consistency of Methodologies Between Baseline and Controlled Emissions

For many mobile source control strategies, data used to quantify emission reductions may come from either a test program, or from an established model such as the Agency's Mobile Source Emissions Model (MOBILE) emission factor model or the complex model for fuels. Generators and users must use consistent methodologies for calculating baseline and control levels of emissions. A protocol may not mix a baseline based on modeled data with a control level based on test data, if test or modeled data are feasible to obtain for both, without prior approval by the Agency.

c. Secondary or Incidental Emission Impacts

Mobile source protocols need to address secondary emissions impacts of the control strategy. All mobile source emission reduction protocols must answer the following three questions:

(1) Does this strategy result in an increase in emissions of the same pollutant from another source? If so, the amount of emissions that are increased by the strategy must be calculated and the emission reductions reduced accordingly.

(2) Does this strategy that reduces VOC emissions result in an increase in NO_X emissions, or vice versa? If so, the generating source must purchase emission reductions to offset the increase, whether or not that increase results in a violation of the VOC or NO_X requirements.

(3) Does this strategy result in an increase in emissions of another criteria pollutant? If so, that increase must be calculated and disclosed. NO_X or VOC controls that cause increases in other criteria pollutants above the limits required by law may not be used to generate emission reductions, until a functioning market exists for those other criteria pollutants.

d. Geographic Considerations

Mobile source protocols must clearly demonstrate that the emission reductions actually were generated or used in the area claimed. Motor vehicles can permanently leave the emission reduction trading zone or be operated predominantly outside the trading zone; therefore, protocols for strategies that involve changes in vehicles must include documentation that demonstrates that the vehicles in question were actually used in the emission reduction trading zone. Because motor vehicle fuels are fungible and fuel distribution systems do not naturally correspond to emission reduction trading zones, protocols for strategies that involve changes in fuel characteristics must clearly demonstrate the characteristics of the fuel that was used in the trading zone.

e. Completeness of Evaluation of Mobile Source Impacts

Protocols for fuel-related programs must evaluate the overall impact of the fuel including the impact on exhaust and non-exhaust emissions including the impact of accompanying changes in other fuel

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parameters. Protocols for vehicle or engine-related programs must also include an evaluation of both exhaust and non-exhaust emissions.

Many mobile source control measures have interactive effects. For example, the incremental benefit of an improved evaporative emissions control system will be lower in an area subject to more stringent RVP requirements. In this case, a protocol for generating emission reductions from the improved evaporative emissions control system on new vehicles must take into account the local RVP to accurately quantify the emission reductions. More generally, all mobile source protocols must also reflect the emissions impact of other mobile source programs in place at the time of emission reduction generation, such as stage II controls, I/M programs, fuel requirements, etc.

f. The Agency-Certified Vehicles and Engines

All vehicles and engines used for generating emission reductions are certified under the Agency's provisions as specified for light duty vehicles, light duty trucks, and heavy duty engines in 40 CFR Part 86 and 88. Non-road engines are certified under the Agency's provisions as specified in 40 CFR Part 89. The Agency does not certify conversion kits, the Agency only certifies complete vehicles and/or engines. Therefore, vehicles and engines that have been converted must be "recertified" by the Agency and receive a "certificate of conformity" for each engine family as specified in 40 CFR Part 86, 88 or 89.

g. Generating Emission Reductions from Activity Level Reductions

In order to generate emission reductions by reducing mobile source activity, a generator must be able to present convincing evidence that the reduction in activity level was the result of a plan to shorten or reduce trips, and not the result of some incidental change in the economy or operations of the source.

h. Use of Emission Factor Models

(1) Use of the Agency Models. The MOBILE motor vehicle emissions model may be used to estimate emission reductions for certain mobile source strategies for highway vehicles. The complex model for fuels may be used to estimate the effects of certain types of changes in fuel formulation on highway vehicle emissions. Specific guidance on the use of these models is contained in the Agency's Open-Market Trading Protocol Development Guidance for Mobile Sources. When the Agency releases its non-road emission factor model, the Agency will supplement the Protocol Development Guidance to address acceptable uses of that model for quantifying emission reductions.

The use of highway vehicle emission factors from AP-42 is not appropriate for quantifying emission reductions. Modifications to the MOBILE model structure or code (other than reformatting of input or output structure) or use of alternative basic emission rates (BERs) in MOBILE are prohibited without prior approval by the Agency. Modifications of the structure or code of the Complex model or of the Agency's non-road model, when it becomes available, are also prohibited.

(2) Most Current Version Required Generators and users of emission reductions are responsible for ensuring that the most current version of the appropriate model is used when developing a generation or use protocol. The "most current version" is defined as the official the Agency version available on the date the notice of generation is submitted. In the case of emission reduction use protocols, the "most

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current version" is defined as the official Agency version available on the date the notice of use is submitted.

(3) Input Assumptions. MOBILE model input assumptions must be consistent with those required to be used in SIPs inventories, except where the input is directly related to the strategy for creating emission reductions. For example, an emission reduction generation strategy involving LEVs use modeling assumptions required for the local SIP for temperatures, speeds, fuel characteristics, etc., but use input assumptions consistent with the control strategy to describe the LEV program. All MOBILE input assumptions must be fully documented.

In many cases, current estimates of a model input parameter may be different than what was assumed in a SIP created several years earlier. For example, actual vehicle miles traveled (VMT), registration distribution and age mix of the fleet, characteristics of an I/M program or other control programs, etc., may be different in the year of emission reduction generation than predicted in the SIP. For most years, there will not actually be a prospective SIP inventory. In these cases, the most current information available should be used. However, all input assumptions should conform to what would be required if a SIP inventory were being created at the time of emission reduction generation.

(4) Use of EMFAC. Use of EMFAC to calculate emission reductions is permitted only in California.

i. Development of Test Procedures

(1) Test Methods Some types of mobile source control strategies used to generate emission reductions will require the development of a test program to quantify the emission reductions. Test procedures used for emission reduction quantification must use Agency-approved measurement methods or the protocol must demonstrate equivalent or superior repeatability, reproducibility, accuracy, and precision for alternative methods. All vehicles or engines used in tests should be properly broken in to avoid distortions in test results that occur with new engines. [Place holder -OMS needs to provide further description of required criteria for test procedures. This should include reference to EPA's federally regulated test procedures, and issues such as correlation to the Federal test procedures and variability involved with the test methods.]

(2) Use of Previously-Generated Test Data A test program need not be included each time emission reductions are generated if previously generated test data that meet the provisions of this section already exist. In such cases, the protocol must reference the previous test data, and demonstrate that the test data can be appropriately applied to the current generation of emission reductions. That demonstration must show that the characteristics of vehicle fleet (technology types, engine families), fuel, operating conditions (mileage accumulation, driving conditions, maintenance schedules, other control strategies in place), and environmental factors (temperature, altitude, humidity) are similar enough to justify use of the test data.

(3) Assessment of In-Use Deterioration The test program include an assessment of in-use deterioration associated with the control strategy. Because emission reductions are calculated retrospectively, in-use deterioration could be assessed on an ongoing basis by comparing test data from a sample of vehicles or engines with and without the control strategy. It is not appropriate to use

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baseline deterioration rates derived from MOBILE with control deterioration rates derived from a test program that does not match the range of in-use conditions on which the MOBILE deterioration rates are based.

(4) Bias in Test Methods The protocol must explain the steps taken to avoid bias, and if bias does exist, the protocol must explain the way it was accounted and adjusted.

(5) Validity of test data:

(a). The generator must be able to show with a statistical confidence level of 90 percent that the benefit observed during testing is greater than zero.

(b) The protocol must fully describe and justify the sampling method used. Random sampling methods, or stratified random sampling methods where appropriate, are ideal. Other sampling methods must be adequately justified.

(c) Test results that will be applied to a larger fleet must include enough diversity in engine families to adequately represent that fleet. Test results based on a single-engine family could not be applied beyond that engine family without prior approval from the Agency.

(d) Once collected, data may not be selectively excluded, except as necessary to remove outliers and overly influential observations. Outliers must be at least four standard deviations from the mean to be removed. Any removal of outliers or overly influential observations must be fully documented and justified in the protocol.

(e) Analyses that rely on regression analyses should involve steps to control or limit multi-collinearity of the independent variables. All regression runs used to develop a regression equation should be retained and included in the documentation of the emission reductions.

(6) Additional Test Requirements for Certain Changes in Fuel Formulations All generation strategies based on changes in fuel formulation not included in the Agency's Complex Model must provide data to answer the following questions:

(a) What is the impact of changes in other fuel parameters on the expected emissions benefits? What effect does the interaction with other fuel parameters or additives have on the expected benefits? What effect does the mixing of fuel in the fuel distribution system have on the expected benefits?

(b) What are the effects of this change over the range of vehicles or engines in which this fuel will be used? Since the Complex Model only represents 1993 and earlier model years, its predictions will not apply to post 1993 vehicles. The generator of an emission reduction must present an analysis of how the fuel property in question affects post 1993 vehicles.

(c)What are the effects of consumer loyalty? Do consumers have to use the fuel for multiple consecutive tankfuls before the benefit is achieved? What happens when consumers switch back and forth between this fuel and others?

(d) What are the effects of expected variations or changes in the fuel formulation parameter that may occur in the production or distribution system of the fuel?

(e) If the claimed benefit is based on a claim of lower deterioration rates, what are the in-use deterioration rates for identical vehicles or engines, with and without the change in fuel formulation, tested under identical in-use conditions? Are these differences statistically significant at the 90 percent level?

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5. Open Market Protocol Development Guidance

The Agency will issue rate stationary and mobile source guidance documents containing guidelines for developing acceptable emissions quantification protocols for use in open-market trading programs. The guidance documents will be updated, as needed, to reflect new technical information received, to add new examples or illustrative protocols, and to correct any information found to be technically incorrect. The guidance is intended to assist State and Federal enforcement and compliance officials to evaluate quantification protocols and their resulting emission reduction estimates, and to assist owners and operators of emission sources to evaluate, select, and implement quantification options.

The protocol guidance documents contain a compilation of information judged by the Agency to be technically correct when appropriately applied. The protocol guidance documents set forth meaningful guidelines for the kinds and quality of data needed to support the calculation of amounts of emission reductions created by generators, or needed by users. Generators and users will be able to employ these guidelines to develop specific quantification protocols for their applications. However, because of the virtually unlimited variation in monitoring and protocol elements for site-specific or application-specific conditions, the guidance cannot address all quantification scenarios. Specific approaches or procedures should not be assumed applicable to all situations, nor should they be considered the only appropriate approach in any given situation. Care should be taken by agency personnel and source owners or operators to use the specific approaches and procedures presented in the guidance only where they will result in emission reductions that are surplus, properly quantified, and verifiable, as defined in the specific jurisdiction where the action occurs.

The stationary source protocol development guidance document contains:

- the principles of quantification guidance,
- flowcharts with accompanying general discussion for the process of generation and use of emission reductions,
- general considerations of quantification with quantification techniques,
- a summary of information on test and monitoring methods,
- alternative method acceptance procedures,
- a section on a general hierarchy of emission quantification techniques,
- specific techniques for determination of uncertainty using statistics,
- guidance for NO_X sources,
- guidance for VOC sources,
- recommended quantification protocol outlines for generation and use of emission reductions,
- a quantification protocol checklist listing the elements that should be addressed in quantification protocols, and
- worksheets that address the calculations required for actual site-specific or application-specific results.

Appendices to the guidance describe State trading programs, contain a glossary of terms, and list a bibliography of measurement information.

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The MSPDG document contains similar information including an elaboration on the protocol development criteria given in the OMTG, general discussions on mobile source baseline issues, a discussion about the appropriateness of testing and modeling for quantifying mobile source reductions, information on appropriate modeling input assumptions, and information on appropriate test procedures. The document also contains a series of appendices, which discuss, in detail, issues associated with the quantification of mobile source reductions for various types of strategies that affect highway vehicles, non-road engines, fuels, activity levels, and in-use emission control programs.

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16.4 Guidance on Voluntary Emission Reduction Programs

Note: This section of the appendix contains two policy memoranda - "Incorporating Voluntary Stationary Source Emission Reduction Programs Into State Implementation Plans", and "Guidance on Incorporating Voluntary Mobile Source Emission Reduction Programs in State Implementation Plans (SIPs)". The mobile source guidance was issued before the stationary source guidance, and served as a reference for the stationary source guidance.

INSERT DATE

MEMORANDUM

SUBJECT: Incorporating Voluntary Stationary Source Emission Reduction Programs Into State Implementation Plans - FINAL POLICY

FROM: John Seitz, Director
Office of Air Quality Planning and Standards

TO: Air Division Directors, Regions 1- 10

Introduction

This memorandum transmits the Environmental Protection Agency's (EPA) final policy regarding the granting of explicit State Implementation Plan (SIP) credits for voluntary stationary source emission reduction programs under section 110 of the Clean Air Act (CAA). Voluntary stationary source measures have the potential to contribute, in a cost-effective manner, emission reductions needed for progress toward attainment and maintenance of the National Ambient Air Quality Standards (NAAQS). The EPA believes that SIP credit is appropriate for voluntary stationary source measures where we have confidence that the measures can achieve emission reductions. The attached policy provides the details that States need to know in order to obtain these credits.

This policy is intended to complement the voluntary mobile source emissions reduction policy that has been in place since October, 1997. It does not alter in any way the provisions of the mobile source policy.

Policy Summary

The following is a summary of the key elements of the stationary source voluntary measures policy:

Policy Target: The major targets of this policy are small, area sources that are not currently regulated under the CAA. However, other sources may utilize this policy except in the case of an area whose nonattainment problem is strongly affected by one source or a small group of sources.

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Meeting Other CAA Requirements: Voluntary measures may not be used to meet other CAA requirements such as Reasonably Available Control Technology (RACT) requirements or Best Available Control Technology (BACT) requirements. In addition, existing permit or SIP requirements on sources cannot be converted to voluntary measures.

Types of Measures Allowed: Voluntary measures could be continuous, seasonal, or, for retail/consumer measures, episodic.

Enforceability: Voluntary measures are not directly enforceable against the source(s) implementing the measures. If measures are not implemented as planned, or if the measures do not achieve predicted emission reduction levels, then the State is responsible for remedying the shortfall.

Basic Program Requirements: In order to be approvable as a SIP revision, a stationary source voluntary measures program could not interfere with other requirements of the CAA, would need to be consistent with SIP attainment, maintenance or reasonable further progress (RFP)/rate of progress (ROP) requirements, and provide emission reductions that are quantifiable, surplus, permanent and enforceable (enforceable against the State, not against the source).

Limitations: An area's limit for stationary source voluntary measures is 3 per cent of the needed reductions for ROP, RFP, or attainment demonstration purposes. This amount is in addition to the 3 per cent limit that currently applies to mobile source voluntary measures.

Program Evaluation and Remediation: States must enforceably commit to complete an initial evaluation of the effectiveness of each voluntary measure not later than 18 months after putting the measure in place. In addition, States must also enforceably commit to correct any shortfall between predicted and actual emission reductions within an additional 2 years.

Policy Evaluation: We plan to evaluate the effect of this policy after 5 years to determine if it is meeting its goals.

Please share this policy with your States, Tribes and local agencies. Any questions on the policy should be addressed to Eric Crump, Office of Air Quality Planning and Standards, at 919-541-4719.

Attachment

cc: M. Oge, OTAQ
B. Buckheit, OECA
A. Eckert, OGC
W. Becker

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Stationary Source Voluntary Measures Final Policy

(Note: As used in this document, the terms "we", "us" and "our" refer to EPA. The terms "you" and "your" refer to a State or States.)

Why have we developed a stationary source voluntary measures policy?

Many areas of the country that are designated as nonattainment are finding it increasingly difficult to find ways to achieve additional emission reductions needed to attain the National Ambient Air Quality Standards (NAAQS). Many areas have already applied reasonably available control technology (RACT) and other controls to stationary sources and are still not attaining the NAAQS. In some cases, areas have chosen to control sources well beyond RACT levels, but still cannot attain the standards. These areas need to find additional innovative emission reduction approaches. One way to accomplish this is through voluntary measures. Voluntary measures are an alternative to traditional command and control approaches that have the potential to encourage new, untried and cost-effective approaches to reduce emissions.

What is a voluntary measure?

As discussed in this policy, a voluntary measure is an action by a source that will reduce emissions of a criteria pollutant or a precursor to a criteria pollutant that the State could claim as an emission reduction in its State Implementation Plan (SIP) for purposes of demonstrating attainment or maintenance of the NAAQS, reasonable further progress (RFP), or rate of progress (ROP), but that is not directly enforceable against the source. Voluntary measures could not be used by the source to meet any other emission reduction requirement (for example, offsets for New Source Review or credits for trading under an economic incentive program). Voluntary measures also could not be used to meet any other emission reduction requirement such as RACT, Best Available Control Technology (BACT), Best Available Retrofit Technology (BART), Lowest Achievable Emission Rate (LAER), New Source Performance Standards (NSPS) or National Emission Standards for Hazardous Air Pollutants (NESHAP) limits. In effect, the source accrues neither liability nor direct benefit from the action. All voluntary emission reductions would be credited to the State[1] for demonstrations of attainment, maintenance or RFP/ROP.

Even though an individual source would not receive direct benefit from participating in a voluntary measures program, there would still be incentives for sources to participate. These include a desire on the source's part to contribute to improved air quality, possible recognition by the State or others of the source's contribution to air quality improvement, and the opportunity to participate in a non-regulatory program for a small group of sources that may achieve emission reductions in a more cost-effective and less resource-intensive manner.

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[1]"State" means a State, local agency, Tribe or other entity that has the authority to submit an implementation plan to EPA for approval under section 110 of the Act.

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What is a "source" as discussed in this policy?

For ease of reference, the term "source" refers to any non-mobile emitter of a criteria pollutant or a precursor to a criteria pollutant. This includes major and area sources, including farms, natural sources of pollutants such as blowing dust, retail stores and individual consumers.

What sources does this policy cover?

Under this policy a State could take credit for voluntary measures that apply to the following types of sources:

- Subject to the limitations described later in this policy, stationary sources or emission points within a stationary source including any building, structure, facility or installation which emits or may emit an applicable criteria air pollutant or precursor.

- Area sources that are too small and/or too numerous to be individually included in a stationary source emissions inventory. This category could include facilities that directly emit applicable criteria pollutants or their precursors such as very small printers or bakeries. It could also include products sold by wholesale or retail operations that may emit criteria pollutants or their precursors and individual consumers that may use products which emit criteria pollutants or their precursors.

Could all sources use the stationary source voluntary measures policy?

EPA would not consider it appropriate for all sources to participate in the voluntary measures policy. Some nonattainment problems (whether area-wide or part of the larger nonattainment area) are strongly affected by one source or a small group of sources. This is usually the case in nonattainment areas for lead and sulfur dioxide (SO2), and for certain particulate matter (PM) and carbon monoxide (CO) nonattainment areas as well. It should not be the case for ozone, where a mix of major sources, area sources, mobile sources and long range transport all contribute to the problem. We do not believe that sources which strongly affect a nonattainment problem should be allowed to participate in a voluntary measures program. Emission reductions in these cases should be directly enforceable against the sources causing the problem.

Could existing requirements be made "voluntary"?

Existing permit or SIP requirements on sources cannot be converted to voluntary measures. This "antibacksliding" provision is meant to ensure that currently required and enforceable activities cannot be made "voluntary."

What is the relationship of this policy to the mobile source voluntary measures policy?

This policy does not cover any of the emission sources included in the mobile source voluntary measures program, including on-road and non-road vehicles. Those sources are covered by the mobile source voluntary measures guidance signed October 27, 1997. However, the stationary source

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voluntary measures program does represent an extension of the basic policies developed in the mobile source voluntary measures guidance to the stationary source arena.

What is the relationship of this policy to the Economic Incentive Program (EIP)?

Economic incentive programs differ from voluntary measures in that under a State's EIP, emission reductions (or actions leading to emission reductions) must either be identifiable and enforceable against a specific source or the State must use one of the following three methods to meet the enforceability requirement:

- the EIP submittal includes fully adopted contingency measures and contains a State commitment to automatically implement contingency measures, if necessary.
- the State will only count emission reductions on a retrospective basis.
- the State has used the control strategy in a similar situation, has achieved positive results, and gets preliminary approval from the relevant EPA Regional Office to use the provision.

Some strategies might be originally approved under the voluntary measures policy and later, after program evaluations have been completed, be able to be approved as a regular EIP. If an emission reduction strategy can meet the EIP requirements, a State should strive for the strategy to be approved as an EIP rather than as a voluntary measure because EIP measures have a greater degree of certainty since they are more quantifiable than voluntary measures and are enforceable against the source. Also, EIP measures are not subject to a limitation as are voluntary measures.

What are the different types of stationary source voluntary measures programs?

Voluntary measures could be continuous, seasonal (in effect only during the season in which an area experiences high pollutant concentrations) or, for certain actions, episodic (implemented during specific periods of high pollutant concentrations, varying by meteorological conditions).

What are examples of types of stationary source voluntary measures?

Some examples of voluntary measures could include:

- Retail operations agreeing not to sell high emitting volatile organic compound (VOC) products during the ozone season.
- Consumer-oriented programs to reduce the use of high emitting paints or other consumer products during the ozone season or no paint days during periods of high predicted ozone concentrations (Ozone Action Days)
- Deferring or reducing both consumer and industry maintenance involving high emitting chemicals.
- Where it is not already required, improved operating practices or use of pollution prevention approaches to reduce emissions, such as covering containers, reducing waste from operations, or use of water-based systems for cleaning operations at stationary sources.
- Reducing emissions from emissions points not currently required to be controlled (e.g., by applying new or innovative emission reduction approaches such as pollution prevention or process changes).

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- Process changes to reduce emissions during the ozone season.
- No burn days for PM programs, e.g. wood stoves or agricultural burning.
- Programs to reduce electricity usage.
- Heat island programs to encourage activities that will reduce center-city temperatures during the summer, e.g. replacing roofs with Energy Star-labeled roof products or planting shade trees.
- Emission reductions resulting from programs designed to educate consumers or sources about the effects of their actions on the environment. This could also include emission reductions resulting from mentoring programs where firms that are more experienced in air pollution control activities could advise less-experienced firms on ways to reduce air pollution.
- Process or technology changes that result in substantially reduced emissions beyond those mandated in a SIP or mandated by such control programs such as RACT, BACT, BART, LAER, NSPS or NESHAPs.

<u>What basic requirements would a stationary source voluntary measures program need to meet?</u>

In order to be approvable as a SIP revision, a stationary source voluntary measures program could not interfere with other requirements of the Clean Air Act, would need to be consistent with SIP attainment, maintenance or RFP/ROP requirements, and provide emission reductions that are:

1. **Quantifiable** - The voluntary measure emission reductions should be quantifiable and include procedures to evaluate and verify over time the level of emission reductions actually achieved.

2. **Surplus** - The emission reductions could not be required or assumed by an existing SIP or permit and could not otherwise be relied on or required to meet any of the following:

- A technology-based requirement of the Act, including, but not necessarily limited to, RACT, BACT, LAER, BART, NSPS or NESHAP limits.
- Conformity-based requirements - for example, reductions needed to demonstrate conformity.
- Emission reductions used or needed for offset or netting purposes.
- Other adopted State air quality programs not in the applicable SIP.
- Federal rules that reduce criteria pollutants (or their precursors) such as rules for reducing VOCs promulgated under section 183 of the Clean Air Act (CAA).

In other words, you could not claim emission reductions that result from any other emission reduction or limitation of a criteria pollutant or precursor that you are already required to have to attain or maintain a NAAQS or satisfy other CAA requirements for criteria pollutants. In the event that emission reductions relied on in a voluntary measure are subsequently required by a new air quality-related program, like one of those listed above, those emission reductions would no longer be surplus.

3. **Enforceable** - While we have already stated that voluntary measures are not enforceable against the source, the State would be responsible for assuring that the emission reductions credited in the SIP occur. The State would make an enforceable commitment to monitor, assess and report on the emission reductions resulting from the voluntary measures and to remedy any shortfalls from forecasted emission reductions in a timely manner as discussed below.

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4. **Permanent** - The voluntary program should be permanent unless it is replaced by another measure (through a SIP revision) or the State demonstrates in a SIP revision that the emission reductions from the voluntary program are no longer needed.

What is the authority for approving voluntary measures programs under the Clean Air Act?

The EPA would approve voluntary measures under the following sections of the Act:

- 110 and 172 regarding emission reductions needed to achieve attainment of the NAAQS.
- 182 regarding economic incentive provisions.
- 175A regarding maintenance plans.

In light of the increasing incremental cost associated with stationary source emission reductions and the difficulty of identifying additional stationary sources of emission reductions, EPA believes that it needs to stimulate innovative approaches to emission reductions. Consequently, EPA believes that it may be appropriate and consistent with the Act to allow a limited percentage of the total emission reductions needed to satisfy ROP, RFP and attainment and maintenance requirements to come from voluntary measures.

While this policy does not require that actions be enforceable against individual sources, it does place clear responsibility on a State to ensure that the emission reductions take place. This includes a commitment, under timeframes as discussed below, to evaluate the effectiveness of each measure and, in the event the voluntary measure does not achieve the projected emission reductions, to remedy any SIP shortfall by providing enforceable emission reductions from other sources or by showing that the emission reductions are not needed to achieve attainment, maintenance or RFP/ROP requirements. The enforceable emission reductions from other sources or "showing" would be accomplished through a SIP revision.

What limitations apply to voluntary measures programs?

Because of the innovation involved in stationary source voluntary measures, our inexperience in quantifying them, and the inability to enforce these measures against individual sources, EPA believes that it is appropriate to limit the amount of emission reductions allowed in a stationary source voluntary measures program. At this time, we believe an appropriate limit for stationary source voluntary measures would be 3% of needed reductions for ROP, RFP, or attainment demonstration purposes. This is not 3% of an area's total emission inventory. For example, if a State projects emissions in the attainment year to be 100 tons per day over the emissions needed to show attainment, the State could take credit for emission reductions from stationary source voluntary measures of up to 3 tons per day. In the case of maintenance demonstrations, voluntary measures can account for no more than 3% of the reductions needed to demonstrate maintenance of the NAAQS. These maintenance-related voluntary measures would be in addition to those measures that were previously adopted for attainment or RFP/ROP determination purposes.

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Section 123 of the Act limits the credit States can take for using dispersion techniques, which include episodic and supplemental controls on emissions from stationary sources that vary based on atmospheric or meteorological conditions. The EPA's regulations implement section 123 at 40 CFR sections 51.100, 51.118, and 51.119. One of the purposes of section 123 is to make sure that stationary sources[2] do not rely upon intermittent controls in order to avoid the application of feasible constant emission controls. In implementing the voluntary measures policy, States would need to take care to avoid seeking SIP credit for episodic controls on stationary source emission activities that are feasibly regulated through continuously or seasonally applicable emission controls. Under the policy, EPA would not grant credit to any stationary source episodic control measure that falls within the Agency's definitions of "dispersion technique" at 40 CFR 51.100(hh)(1)(ii) or "intermittent control system (ICS)" at 40 CFR 51.100(nn), except as allowed by EPA's rules.

The EPA believes that section 123 should not, however, restrict credit for non-stationary source episodic or supplemental emission reduction measures that apply to consumer actions or the use of consumer products such as paints or hairspray, for which these controls may represent the only feasible type of control. For example, EPA has formally determined that the use of smoke management in agriculture and silviculture practices, and episodic curtailment of residential wood combustion, are not dispersion techniques limited by section 123. Moreover, EPA has explained that the use of dust suppressants at stationary sources are not dispersion techniques, since these measures are triggered by the rate of dust emissions rather than by varying atmospheric or meteorological conditions. Finally, EPA has stated that seasonal controls that are implemented at pre-determined periods of the year and that do not vary with atmospheric or meteorological conditions are not limited by section 123, even if they apply to stationary sources.

How does a voluntary measure get SIP approval?

A State would submit a SIP to EPA which:

- identifies and describes the voluntary measure program
- contains projections of emission reductions attributable to the program, along with relevant technical support documentation
- commits to State implementation of those parts of the measure for which the State or local government is responsible
- commits to monitor, evaluate, and report the resulting emissions effect of the voluntary measure
- commits to remedy any SIP credit shortfall in a timely manner as described below if the voluntary program does not achieve projected emission reductions
- meets all other requirements for SIP revisions under sections 110 and 172 of the Act.

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[2] In this document, the term "stationary source" is generally used broadly to include any source that is not a mobile source, including consumer actions. However, in this discussion of section 123, the term "stationary source" is used in its more traditional, regulatory sense, which is narrower in scope and does not include individual or retail actions. For examples of regulatory definitions of "stationary source," see 40 CFR 51.165(a)(1)(i), 40 CFR 51.166(b)(5), and 40 CFR 60.2.

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See attachment 1 for a detailed description of the SIP approval process.

How should a SIP authority calculate the credit to be obtained from a voluntary measure?

The stationary source voluntary measures policy applies to a wide variety of types of stationary sources. While a State would need to carefully develop an emissions quantification protocol that best fits each type of emissions source, the following generic protocol presents the basic components that should be accounted for in any emission reduction quantification approach.

- Identify the type of source or facility that will be involved in the emission reduction activity.
- Determine whether the emissions from these sources are already included in the emissions inventory in the SIP. If they are not already in the SIP inventory, no credit could be given for these sources unless the baseline is reassessed. If they are in the SIP inventory, determine the baseline emissions from these sources.
- Fully explain the emission reduction technique, provide a detailed estimate of the amount and type of emissions (e.g. VOCs, NOx, PM, etc.) that will be reduced. Provide a clearly articulated methodology for how the emissions reduction estimates were derived .
- Identify the number of sources that will participate in the voluntary measure and provide documentation as to how that number was derived and why the SIP authority believes it to be accurate.
- If there is uncertainty in either the amount of emission reduction that will be generated by the emission reduction technique or the number of sources that will participate, the SIP authority should apply an adjustment factor to reduce the estimate commensurate with the level of uncertainty. The greater the uncertainty, the greater the adjustment factor. This could be in the form of a percentage reduction to the estimate.
- If the sources are generally of the same size and emission rate, multiply the number of sources participating by the amount of emission reduction estimated per source to determine the total emission reduction to be applied to the SIP.

  -or-

  If the emission reduction can differ substantially from source to source, add the emission reduction from each participating source to derive a total emission reduction and apply it to the SIP.

How should a State evaluate the emission reduction effectiveness of its voluntary measures programs?

Program evaluation is the process of retrospectively assessing the performance of your voluntary measures program. The primary purpose of program evaluation is to evaluate the amount of reductions actually realized through the program and to serve as a basis for adjustments to the program if the original estimates of emission reductions are not being achieved. In your SIP submittal, you would develop and include specific program evaluation procedures for your voluntary measures program.

You should carefully consider what approach can provide the most effective means to accurately evaluate your voluntary measures program. Your approach will depend greatly on what type of voluntary program you evaluate. For example, if you evaluate a low VOC retail paint sales program, you may want to use inventory records to evaluate the program. For an ozone action day approach to

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discourage use of VOC based consumer products (paints, hair spray, etc.), you may want to use a consumer survey. Statistical sampling may be an appropriate method for assessing program effectiveness, particularly for those voluntary measures utilized in the consumer/retail area.

How often should a State evaluate its voluntary measures program?

The State would enforceably commit to complete an initial evaluation of the effectiveness of each measure not later than 18 months after putting the measure in place (one year to run the measure and 6 months to analyze the data to determine the measure's effectiveness). This evaluation should be done more quickly, where possible. For instance, for a seasonal voluntary measure program that may only run for 6 months, the timeframe may be 6 months to run the program and 6 months to determine its effectiveness.

Once a State has determined the initial effectiveness of its voluntary measure, it may reevaluate its voluntary measure programs at the same time as other SIP measures, generally every 3 years, except that if no requirement to reevaluate SIP measures applies to the particular plan, the State would need to reevaluate its voluntary measure programs at least every three years. If, before the required initial evaluation or the scheduled reevaluations, the State becomes aware that the voluntary measure program is not achieving or will not achieve the predicted emission reductions, the State should notify EPA and correct the SIP as discussed in the next section.

What should a State do if the evaluation reveals a shortfall between predicted and actual emissions reduction?

Your voluntary measures SIP submittal would include an enforceable commitment that if you learn through program evaluations (or by other means) of a shortfall (i.e., projected emission reductions were not or will not be achieved), you will correct the problem by providing enforceable emission reductions from other sources or showing that the emission reductions are not needed for attainment, maintenance or RFP/ROP. The enforceable emission reductions from other sources or "showing" would be accomplished through a SIP revision.

Any shortfall would need to be corrected as soon as possible but could not exceed a year from the completed program evaluation (or learning of the shortfall) if State rulemaking is not required. If State rulemaking is required, you should proceed as expeditiously as possible under the required State process, but you would need to correct the shortfall within 2 years. If the emission reductions from the voluntary measure are necessary to be able to make a showing of attainment or ROP, your timeframe to correct a shortfall could not exceed the statutory attainment or ROP milestone date for your nonattainment area (for example, in the one hour ozone program, 2005 or 2007 for severe areas and 2010 for the extreme area). Failure to address this shortfall could lead to a finding of nonimplementation under section 179(a)(4) of the Act. In such a case, sanctions may be imposed under section 179(b) of the Act.

How long does this policy last?

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Because this policy is new and innovative, the EPA plans to evaluate the effect of this policy after 5 years to determine if it is meeting its goals. During this evaluation, EPA will consider making whatever changes to the policy are appropriate.

Disclaimer

The Clean Air Act and implementing regulations at 40 CFR Part 51 contain legally binding requirements. This policy document does not substitute for those provisions or regulations, nor is it a regulation itself. Thus, it does not impose binding, enforceable requirements on any party, and may not apply to a particular situation based upon the circumstances. EPA and State decision makers retain the discretion to adopt approaches to the approval of SIP measures that differ from this guidance where appropriate. Any final decisions by EPA regarding a particular SIP measure will only be made based on the statute and regulations. Therefore, interested parties are free to raise questions and objections about the appropriateness of the application of this guidance to a particular situation; EPA will, and States should, consider whether or not the recommendations in the guidance are appropriate in that situation. This guidance is a living document and may be revised periodically without public notice. EPA welcomes public comments on this document at any time and will consider those comments in any future revision of this guidance document. Finally, this document does not prejudice any future final EPA decision regarding approval of any SIP measure.

Attachments

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Attachment 1 - SIP APPROVAL PROCESS

General Submittal Requirements

A State would submit a SIP to EPA which

- identifies and describes the voluntary program;
- contains projections of emission reductions attributable to the program, along with relevant technical support documentation;
- commits to monitor, evaluate, and report the resulting emissions effect of the voluntary measure;
- commits to remedy in a timely manner any SIP credit shortfall if the voluntary program does not achieve projected emission reductions,
- meets other requirements for SIPs such as
  -- a showing that the State has legal authority. For example, the evidence may be a letter from the State's Attorney General's office providing an analysis of the legal authority to adopt and implement the State program under State law. -- the date of adoption, as well as the effective date of the program, if this information is not already included in the program.
  -- evidence that the program is consistent with the provisions of section 110(a)(2)(E) of the Act.
  -- include a copy of the voluntary measure, including indications of the changes made to the existing approved SIP where applicable. The State program and other relevant rules would have to be signed, stamped, and dated by the appropriate State official indicating that it is fully implementable by the State. The effective date of the program should, whenever possible, be indicated in the document.
- contains evidence that:
  -- the State adopted the voluntary measure program into the appropriate State mechanism (e.g., your applicable State rules) and the date adopted.
  -- the State followed all the procedural requirements in the State's laws and constitution in conducting and completing the voluntary measure program.
  -- the State gave public notice of the proposed changes consistent with procedures approved by EPA, including the date of publication of this notice.
  -- the State held public hearings consistent with the information in the public notice and the State's laws and constitution.
  --the State established explicit procedures for including the public in the program implementation and evaluation phases, to address any environmental justice issues.
  --the State has sufficient resources to collect data and perform a program evaluation to determine the actual emission reductions realized by a voluntary measure.

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General Process Timeline

The general process timeline for getting your voluntary program approved consists of the following steps:

- Develop the SIP revision in consultation with appropriate stakeholders - community (including communities of concern), industry, academia, environmentalists and regulators.
- Prepare documentation to support the SIP revision.
- Submit the SIP revision and supporting documentation to the applicable EPA Regional Office.
- The EPA Regional Office reviews the SIP submittal for completeness and decides whether the SIP submittal is complete.
- If the EPA Regional Office considers the SIP submittal to be incomplete, the EPA Regional Office will return the SIP submittal. At this point, the State may revise the SIP submittal and resubmit the package.
- The EPA proposes action on the SIP revision in the Federal Register and takes comments on the SIP from the public. Based on the public's comments, the EPA may ask that the State make changes in the SIP revision.
- The EPA publishes the final approval of the (original or modified) SIP revision in the Federal Register.

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Attachment 2 - Mobile Source Voluntary Measures Policy

10/24/97

MEMORANDUM

SUBJECT: Guidance on Incorporating Voluntary Mobile Source Emission Reduction Programs in State Implementation Plans (SIPs).

FROM: Richard D. Wilson,
Acting Assistant Administrator
for Air and Radiation

TO: EPA Regional Administrators, 1 - 10

Introduction

This memorandum provides guidance and sets forth the Environmental Protection Agency's (EPA) policy and interpretation regarding the granting of explicit State Implementation Plan (SIP) credit for Voluntary Mobile Source Emission Reduction Programs (VMEPs) under section 110 of the Clean Air Act. Voluntary mobile source measures have the potential to contribute, in a cost-effective manner, emission reductions needed for progress toward attainment and maintenance of the National Ambient Air Quality Standards (NAAQS). EPA believes that SIP credit is appropriate for voluntary mobile source measures where we have confidence that the measures can achieve emission reductions. This memorandum announces EPA's intent to grant emission reduction credits for VMEPs, the terms and conditions for establishing and implementing VMEPs, and the requirements for approvable VMEP SIP submittals.

The establishment of this policy pertains solely to voluntary mobile source programs and is not intended to establish precedent for other air emissions source categories. Guidance on emission reduction credits for voluntary activities for other source categories may be established through future guidance documents. This policy also does not change existing EPA policy on credits for mobile source measures in the context of emissions trading programs or Economic Incentives Programs.

Policy Summary

The Clean Air Act Amendments of 1990 increased the responsibility of States[1] to demonstrate progress toward attainment of the NAAQS. At the same time, air pollution control programs in the U.S.

[1]Throughout this document, the term "State" refers to any state or local government body or agency with the authority to submit SIPs to EPA for approval.

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have had difficulty regulating the emission reduction potential of smaller or unconventional sources. EPA supports innovative methods in achieving air quality goals and wishes to promote the creation of viable voluntary mobile source air quality programs. The desire to recognize the emission reductions from these sources has led the Agency to develop policies to support an increasing variety of innovative approaches. EPA recognizes that emission reduction credit toward SIP air quality demonstrations can be a positive factor for gaining political and institutional support for program development and implementation. The demonstration of air quality benefits is also desirable for program assistance through EPA's section 105 grants and is a requirement for project eligibility under the Department of Transportation's Congestion Mitigation and Air Quality Improvement (CMAQ) program..

This memorandum is intended to clarify the basic framework for ensuring that VMEPs become eligible for SIP credit. Generally, a State would submit a SIP which 1) identifies and describes a VMEP; 2) contains projections of emission reductions attributable to the program, along with relevant technical support documentation; 3) commits to monitor, evaluate, and report the resulting emissions effect of the voluntary measure; and 4) commits to remedy in a timely manner any SIP credit shortfall if the VMEP program does not achieve projected emission reductions.

EPA anticipates that this policy will generate additional interest and resources toward VMEP development and data collection. EPA wishes to ensure that the potential benefits of VMEPs are properly quantified and that these benefits are sustained as successful components of the SIP. As experience and information regarding the effectiveness of VMEPs becomes available, EPA intends to provide further technical guidance and assistance to the States. As States and EPA gain more experience with VMEPs in quantifying emissions benefits, more precise information will be available in determining the effectiveness of a range of programs. The type of information that EPA expects to gain from evaluating VMEPs includes emissions benefits, public response and education, cost of implementation, secondary indicators\benefits, quantification methodologies, and data collection.

EPA hopes that the effect of this policy will be to generate sufficient information and programmatic experience to warrant a wider application of VMEPs for progress toward attainment under the new NAAQS policy framework. EPA believes that States should benefit from this policy by having a wider range of programmatic options to consider. This policy will ultimately support the creation of new, cost-effective air quality programs and market-based incentives.

Background

Historically, mobile source control strategies have focused primarily on reducing emissions per mile through vehicle and fuel technology improvements. Tremendous strides have been made resulting in new light-duty vehicle emission rates which are 70 to 90 percent less than for the 1970 model year. However, transportation emissions continue to be a significant cause of air pollution due to a doubling of vehicle miles traveled (VMT) from 1970 to 1990, and tripling since 1960. In some quickly developing urban areas, the more recent VMT growth rate is even more dramatic. In San Diego, California, VMT tripled between 1970 and 1990. VMT in Las Vegas, Nevada, increased 160 percent from 1981 to 1991, and nearly doubled in Phoenix, Arizona, during the same time period.

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The increasing cost of technological improvements to produce incrementally smaller reductions in grams per mile or grams per kilowatt hour emissions in the entire fleet of vehicles and engines, along with the time it takes for technological improvements to penetrate the existing fleets, suggests that supplemental or alternative approaches for reducing mobile source air pollution are necessary. Mobile source strategies which attempt to complement existing regulatory programs through voluntary, nonregulatory changes in local transportation sector activity levels or changes in-use vehicle and engine fleet composition are being explored and developed.

A number of such voluntary mobile source and transportation programs have already been initiated at the State and local level in response to increasing interest by the public and business sectors in creating alternatives to traditional emission reduction strategies. Some examples include economic and market-based incentive programs, transportation control measures, trip reduction programs, growth management strategies, ozone action programs, and targeted public outreach. These programs attempt to gain additional emissions reductions beyond mandatory Clean Air Act programs by engaging the public to make changes in activities that will result in reducing mobile source emissions.

Definitions

The following definitions apply to VMEPs as described in this memorandum.

Voluntary Measures: Emission reduction programs that rely on voluntary actions of individuals or other parties for achieving emission reductions.

Seasonal Measures: Emission reduction programs that are in effect only during the season in which the area experiences high pollutant concentrations.

Episodic Measures: Activity-based mobile source programs that are implemented during identified periods of high pollutant concentrations, varying by meteorological conditions. These measures may or may not be continuous in nature depending on program design. The statutory authority for approval of episodic measures in SIPs applies only to activity-based mobile source emission reduction measures as explained below.

Clean Air Act Authority

EPA plans to use its authority under the Clean Air Act to allow SIP credit for new approaches to reducing mobile source emissions. This policy represents a flexible approach regarding the SIP requirements set forth in section 110[2], and economic incentive provisions in section 182 and 108 of the CAA. This policy responds to State and local government interest in gaining SIP credits and funding for VMEP programs which will count toward their State's plan to make progress toward attainment and maintenance of the NAAQS and builds on EPA's history of approving measures that rely to some degree on voluntary compliance, such as provision of mass transit. Recognizing that only a limited

[2]The requirements regarding emission reductions needed to achieve attainment of the NAAQS.

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amount of implementation experience currently exists, and that information on VMEP effectiveness will be evaluated and reported as a result of this policy, EPA plans to re-evaluate this policy in the future.

Authority to approve of voluntary measures in SIP

EPA believes that it has authority under CAA section 110 to approve voluntary measures in a SIP for emission reduction credit. However, EPA believes that as part of its SIP submittal a State must commit to monitor, evaluate, and report the resulting emissions effect of the voluntary measure, whether the measure is implemented directly by the State or another party, and to remedy in a timely manner any credit shortfall.

In light of the increasing incremental cost associated with additional mobile source emission reductions, the lead time required for new technologies to penetrate fleets, and the increasing need to target mobile source use to realize reductions, where voluntary measures meet the requirements of this policy, EPA believes that it is appropriate and consistent with the CAA to allow a limited percentage of the total emission reductions needed to satisfy any statutory requirement, as described below, to come from voluntary measures. In the event the voluntary measure does not achieve the projected emission reductions, the State, having previously committed in its SIP to remedying such shortfalls, will pursue appropriate follow-up actions in a timely fashion including, but not limited to: adjusting the voluntary measure, adopting a new measure, or revising the VMEP emission credits to reflect actual emission reductions, provided overall SIP commitments are met. EPA believes that voluntary mobile source measures, in conjunction with the enforceable commitment to monitor emission reductions achieved and rectify any shortfall, meet the SIP control measure requirements of the Act.

Establishment of a cap on SIP credits allowed for VMEPs

Under this policy, in light of the innovative nature of voluntary measures and EPA's inexperience with quantifying their emission reductions, EPA is setting a limit on the amount of emission reductions allowed for VMEPs in a SIP. The limit is set at three percent (3%) of the total projected future year emissions reductions required to attain the appropriate NAAQS. However, the total amount of emissions reductions from voluntary measures shall also not exceed 3% of the statutory requirements of the CAA with respect to any SIP submittal to demonstrate progress toward, attainment of, or, maintenance of the NAAQS[3]. EPA has analyzed a number of voluntary mobile source programs which could be incorporated into a SIP. The emission reduction potential of these programs is generally a fraction of one ton per day. A three percent limit on emission reductions from VMEPs will allow areas to implement and claim SIP credit for a significant number of voluntary mobile source programs. This

[3]For example, an ozone area classified as severe needing reductions of 200 tpd of volatile organic compounds (VOC) and 100 tpd of oxides of nitrogen (NO_X) from the projected year 2005 baseline inventory could rely on VMEPs for up to 3% of the required reductions from each pollutant, or 6 tpd of VOC and 3 tpd of No_x. The area could also use all or a portion of these same reductions for purposes of meeting interim rate-of-progress (ROP) milestones, but again the 3% limit would apply. Thus, if the area needed 25 tpd of creditable VOC reductions to meet the 1999 ROP target, no more than 0.75 tpd of the VOC reduction in the 1999 ROP plan could come from VMEPs.

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cap still provides a sufficient incentive for developing and implementing VMEPs, while setting a limit on the extent to which a SIP can rely on innovative programs with which we have had limited experience.

Relationship to Economic Incentive Programs

The 1990 Amendments statutorily required the Agency to develop Economic Incentive Program (EIP) rules[4]. The EIP provides general SIP guidance for the adoption of incentive and other innovative programs. Some programs that depend on voluntary actions also require either State or local government authorization to implement the program. In these cases, which include certain transportation control measures such as congestion pricing programs, it may be more appropriate to use the EIP authority to incorporate the measure into the SIP. Further, where emissions reductions are expected to exceed the 3% limit, EPA would anticipate the State could use the EIP to incorporate measures. If a State wishes to have a VMEP approved under the EIP program rules, EPA is willing to work with the State to develop such a program.

Approval of Voluntary Measures into the SIP - Key Criteria

This section sets forth minimum criteria for approval of VMEPs into SIPs. These criteria require that the VMEP not interfere with other requirements of the Clean Air Act, be consistent with SIP attainment and Rate of Progress requirements, and that emission reductions be:

1. Quantifiable - VMEP emission reductions must be quantifiable. The level of uncertainty in achieving emission reductions must be quantified, and this uncertainty must be reflected in the projected emission reductions claimed by the VMEP. VMEPs must also contain procedures designed to both evaluate program implementation and to report program results as described in the section "Technical Support for VMEPs" of this guidance.

2. Surplus - The VMEP emission reductions may not be substituted for mandatory, required emission reductions. States may submit to EPA for approval any program that will result in emission reductions in addition to those already credited in a relevant attainment or maintenance plan, or used for purposes of SIP demonstrations such as conformity, rate of progress, or emission credit trading programs.

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[4]In accordance with the Act language (section 182 (g)(4)(A)), the EIP applies to "incentives and requirements to reduce vehicle emissions and vehicle miles traveled," including TCM's contained in section 108 of the Act. In addition, the EIP defines mobile sources to mean on-road (highway) vehicles (e.g., automobiles, trucks and motorcycles) and non-road vehicles (e.g., trains, airplanes, agricultural equipment, industrial equipment, construction vehicles, off-road motorcycles, and marine vessels). In certain cases, States are required to adopt EIP provisions into their State Implementation Plan (SIP). The EIP also serves as guidance for all other States that choose to adopt EIP provisions into their SIP as non-mandatory EIPs. In 1994, the Agency issued EIP rules and guidance (40 CFR part 51 subpart U), which outlined requirements for establishing these programs.

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3. Enforceable - A State's obligations with respect to VMEPs must be enforceable at the State and Federal levels. Under this policy, the State is not responsible, necessarily, for implementing a program dependent on voluntary actions. However, the State is obligated to monitor, assess and report on the implementation of voluntary actions and the emission reductions achieved from the voluntary actions and to remedy in a timely manner emission reduction shortfalls should the voluntary measure not achieve projected emission reductions. As stated earlier, EPA anticipates that the State will take the steps it determines to be necessary to assure that the voluntary program is implemented and that emission reductions are achieved so that corrective SIP actions are not required. For example, the State may want to sign a Memorandum Of Understanding (MOU) with the VMEP sponsors.

Any uncertainty in the emission reductions projected to be achieved by the VMEP must be estimated and reflected in the emission reduction credits claimed in the SIP. As part of this submission, the State must commit to conducting program evaluations within an appropriate time-frame. The State must also report the resulting information to EPA within an appropriate time-frame in order to document whether the program is being carried out, and emission reductions are being achieved as described in the SIP submittal. Through the program evaluation provisions contained in this policy EPA anticipates that States will discover any potential emission reduction shortfall in a timely manner and appropriately account for such shortfall either by changing the program to address the shortfall, adopting a new measure, or revising the VMEP's emission credits to reflect actual emission reductions achieved, provided overall SIP commitments are met.

4. Permanent - Emission reductions produced by the VMEP must continue at least for as long as the time period in which they are used by applicable SIP demonstrations. The VMEP need not continue forever to generate permanent emissions reductions, but must specify an appropriate period of implementation in the SIP. Voluntary actions in such a program, and the resulting emission reductions, can be discrete (temporary) or continuous, depending on the nature of the program. For example, an ozone action day program which takes effect over an ozone season, but calls for specific actions on days when exceedences of the ozone standard are likely (i.e., episodic measures) is considered a continuous program producing discrete (temporary) reductions, and therefore the reductions are SIP creditable.

5. Adequately Supported - As with all SIP creditable programs, VMEPs must demonstrate adequate personnel and program resources to implement the program.

Approval of Episodic Measures

EPA has concluded that episodic transportation control measures and other mobile source related market response measures may be approved for SIP credit under the Act. Prior to the 1990 amendments to the Act, EPA believed that section 123 of the Act, which bars the use of dispersion techniques in calculating emission limitations, might apply to all control measures, including transportation and mobile source market controls. However, new language was added to the Act in the 1990 amendments that EPA believes indicates a clear congressional intent to allow and even require the incorporation of episodic transportation and mobile source market response programs in SIPs.

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Several new requirements added to the Act in 1990 specifically require adoption of transportation control measures as listed in section 108(f)(l) of the Act under certain circumstances. See, for example, section 182(c)(5) - Transportation Controls and section 182(d)(1) - Vehicle Miles Traveled. Section 108(e) and (f) authorizes EPA to issue guidance on various types of transportation control measures available for selection in the control programs required under section 182. Section 108(f)(1)(B) identifies methods that contribute to reductions in mobile source related pollutants during periods in which a primary NAAQS will be exceeded. Episodic transportation and market response measures designed to operate during periods when ambient pollution levels are anticipated to exceed the NAAQS clearly fall within the scope of these types of programs that Congress has authorized areas to include in their section 182 transportation and vehicle miles traveled programs.

EPA therefore concludes that any implication that section 123 may have applied to transportation and mobile source market response programs under the Act as amended in 1977 has been clarified by the Act as more recently amended in 1990 by the addition of the specific authorization for adoption of any program identified in section 108(f) under the transportation control programs required under section 182.

Technical Support for VMEPs

A State may take credit in its SIP for VMEPs only if they are quantifiable. VMEPs which are thought to be directionally sound, but for which quantification is not possible cannot be granted credit. EPA believes that carefully designed and implemented VMEPs are quantifiable to the extent necessary to grant SIP credit.

All VMEP submittals must include documentation which clearly states how the sources from which the reductions are occurring, are currently, or will be addressed in the emissions inventory, ROP plan, and attainment or maintenance plan, as applicable. This documentation should include a description of the assumptions used in estimating and tracking emissions and emissions reductions from affected sources.

The following sections are intended to provide general guidance on the elements of emission reduction calculation and evaluation procedures that must be addressed in a VMEP SIP submittal.

Emission Reduction Calculation

To receive SIP credit for a VMEP, the SIP submittal must contain a good faith estimate of emission reductions, including technical support documentation for the conclusion that the measure will produce the anticipated emission reductions. VMEP emission reduction calculations must account for and be adjusted to reflect uncertainties in the program. The calculations must be adjusted to account for two types of uncertainty:

compliance uncertainty - the extent to which the responsible party (a public or private entity) will fully implement the VMEP program, and

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programmatic uncertainty - the extent to which voluntary responses actually occur and/or the inherent uncertainties of program design.

The State must adjust the VMEP calculation for compliance and programmatic uncertainty, based on program design elements, and on the predictive quality of the information, data, and analytic methodology used by the State to develop the projected emission reductions. The State must justify the appropriateness of the adjustments in its VMEP SIP submittal, usually as part of the technical support document.

The adjusted emission reduction estimate should be developed and justified by the State by taking into account various elements of the VMEP program design. These elements could include, but not be limited to: the voluntary mechanism upon which the program is based, such as public outreach or reduced fares; the variability in emission rates from affected mobile sources; the extent of uncertainty in the emissions quantification procedure; and the frequency and type of program evaluation, monitoring, record keeping and reporting.

Evaluation Reporting Procedures

States which use VMEPs in their SIP must describe how they plan to evaluate program implementation and report on program results in terms of actual emissions reductions. Program evaluation provisions for VMEPs must be accompanied by procedures designed to compare projected emission reductions with actual emissions reductions achieved. The timing of the evaluations must be specified in the VMEP SIP submittal. The States and program sponsors will benefit from accurate and complete evaluation reports. EPA expects that program evaluations and experience gained over time will result in VMEP modifications to increase effectiveness.

The State must provide timely post-evaluation reports to the EPA relevant to the SIP time-frame in which the emission reductions are being used. These reports may be used by EPA for the purpose of reviewing subsequent SIP submissions required by the CAA, including but not limited to: periodic inventories, rate of progress (milestone compliance demonstrations), attainment demonstrations, and maintenance demonstrations.

EPA is working with State and local government representatives to develop methodologies which would provide sufficient technical support for VMEP SIP submissions. As results become available, EPA will provide technical guidance to assist in the development of VMEP emission reduction estimates and program evaluation procedures. However, EPA's policy is to recognize the experience of State and local voluntary programs in quantifying emission reductions and evaluating program results. Acceptable methodologies and procedures will not be limited to those developed by EPA, and programs are encouraged to discuss technically sound alternative methods with EPA Regional Office staff.

VMEP Emission Reduction Use

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As explained above, under Title I of the Clean Air Act, EPA is permitting a limited amount of voluntary mobile source measures to be included in SIPs and FIPs and to be adopted for any criteria pollutant in both nonattainment and attainment areas. VMEP emission reductions shall be limited in use as determined by existing applicable SIP policy including offsets, Rate of Progress, attainment demonstrations, baseline determinations, redesignation and maintenance demonstrations.

Future Guidance and Regional Coordination

It is incumbent upon EPA Regional Offices and Headquarters to coordinate the implementation of this policy through consultation and exchange of information. It will be necessary to determine the appropriateness of individual VMEPs, applicability of emission reductions, development of methodologies to estimate emission reductions (including the appropriateness of uncertainty adjustments), peer review, and standardization of policy. To the extent that issues cannot be resolved through ongoing coordination efforts between Regional and Headquarter offices, issues may be ultimately raised through the SIP consistency process. EPA encourages early consultation between project sponsors, planners, and EPA's Regional offices during the development of VMEPs.

For further information on EPA's policy on VMEPs or the guidance set forth in this memorandum, contact Michael Ball of the Office of Mobile Sources, at 313-741-7897.

Attachments

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Attachment 1

Examples of Voluntary Mobile Source Emission Reduction Programs

The following are some examples which are representative of voluntary mobile source emission reduction programs (VMEPs) that could be implemented and credited with emission reductions for SIP related purposes. These programs can and have been designed to be implemented on an episodic, seasonal, or a continual basis. More program examples and ideas may be found on the following websites:
EPA Office of Mobile Source Smart Travel Resources Center web site (www.epa.gov/omswww/strc.htm)
Market Incentive Resource Center (www.epa.gov/omswww/market.htm)
Episodic Measures Database (www.epa.gov/omswww/reports/episodic/study/htm)

Employer Based Transportation Management Programs

Various programs implemented by employers to manage the commute and travel behavior of employees, such as: van pooling, car pooling, subscription buses, walking, shuttle services, guaranteed rides home, alternative work schedules, financial incentives(transit passes and subsidies) and on-site TDM support.

Work Schedule Changes

Changes in work schedules to provide flexibility to employees to commute outside of peak travel periods, such as: telecommuting, flextime, compressed work weeks, staggered work hours.

Area-wide Rideshare Incentives

Promotional assistance aimed at encouraging commuters to use alternatives to single occupant vehicles, such as: marketing of ridesharing services, transit station shuttles, computerized carpool matching, vanpool matching, program implementation assistance.

Parking Management

Management of parking supply and demand, such as: preferential parking locations for carpools and vanpools, preferential parking prices for carpools and vanpools, fee structures that discourage commuter parking, reduced parking for new developments.

Special Event Travel Demand Management

Special plans to manage travel demand in effect during special events, defined as destinations for a large number of vehicle trips which occur on a one-time, infrequent, or scheduled basis(such as athletic events, festivals, and major entertainment performances). These

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measures could include parking management, remote parking connecting with transit or shuttle services, efficient traffic routing efforts, public information and communications systems.

Vehicle Use Limitations/Restrictions

Techniques to limit vehicle activity in a given geographic area or specified time period, such as: auto restricted zones, pedestrian malls, traffic calming, no-drive days, commercial truck restrictions on parking and idling.

Reduced Vehicle Idling

Measures to reduce the amount of time which vehicles spend in idle modes as part of their overall operation, such as: reduced operations of drive-thru facilities such as banks and fast-food restaurants, reduced construction of drive-thru facilities, programs that facilitate reducing idling at truck stops, transfer facilities and loading docks at commercial developments.

Small Engine and Recreational Vehicle Programs

Measures targeted at reducing the frequency and duration of small engine and recreational vehicle use. Other programs aim to shift the time period in which emissions producing activities, such as lawn and landscape maintenance, take place so that the negative impact on air quality is reduced. These measures are usually associated with episodic or seasonal control programs with a significant component of public education and outreach to encourage the voluntary change in activities.

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Attachment 2

Example of a Voluntary Program

Program scenario: A State air quality agency is approached by a public utility to begin a lawn mower buy back program. The State would like to take credit for the emissions reductions from this private sector activity in it's 15% plan.

Up-front credit: The State would like to take credit predicting the effect of the program in reducing emissions associated with replacing uncontrolled lawnmower emissions with electric -- non polluting lawnmowers.

SIP Submittal

General Process

- State notifies EPA of it's intent to take credit for voluntary lawnmower program. Includes program information and technical support documentation and commitment to remedy any emission reduction shortfall in a timely manner.
- Regional Office reviews and approves up-front credit after comments.
- Activity is conducted by the public utility.
- State verifies that the program achieved the predicted benefits and generates information for EPA review.
- Regional Office reviews the State SIP submission and determines that the credits have been achieved as predicted. Also approved under milestone compliance.

Program Identification: State submits to EPA its intent to conduct or take credit for the voluntary lawn mower buy back program in the SIP. The State will describe how the program or activity will work in practice. In the submission, the State will describe the following program elements.

Program participants
How the program works
Activity effects
Emission effects
State commitment for evaluation, reporting, remedying emission credit shortfall
Technical support documentation

Program Participants The State will identify the sponsors of the program. In this case the public utility.

How the Program Works As part of the submittal the State will include a description of the basic program, predicted effect of the program on a given NAAQS criteria pollutant and a commitment to evaluate the program over the desired period of implementation and remedy any emission reduction shortfall in a timely manner.

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In the submittal, the State describes the basic program including how the utility intends to facilitate the activity-- buy back of lawn mowers. On three consecutive Saturdays, the utility customers and employees are able to bring in their gasoline powered lawnmowers and receive a voucher toward the purchase of any new electric lawnmower.

Activity Effects The State will submit predicted and observed activity effects. Data will be generated and analyzed which examines the predicted and actual effect of the program.

In this case, using information provided by the utility, the State estimates that 2000 lawnmowers would be replaced by non-polluting electric mowers.

Emission Effects Activity effects ultimately are translated into emissions benefit calculations (usually in tons per day\per year).

The State would be given up-front credit for emission reductions in terms of HC, CO and other NAAQS criteria pollutants for 2000 mowers being replaced by electric mowers.

State Commitment for Evaluation, Reporting, and Addressing Credit Shortfall The State will be responsible for ensuring that data will be collected regarding participation and the effectiveness of the program. In addition, the State must commit to remedy any SIP credit shortfall in a timely manner if the voluntary measure does not achieve projected emission reductions.

The State, as part of the evaluation and reporting commitment, submits to EPA a comparison of the predicted effect of the program with the actual observed levels. In this example the utility finds that 2000 mowers were replaced. Thus, the predicted reductions were achieved.

Technical Support Documentation The State will submit Technical Support Documents describing the program and the methodology for predicting emissions benefits. Where possible the State should identify data collection methodologies and information necessary for describing implementation, compliance, effectiveness and other relevant information. This information should account for the following:

Programmatic Uncertainty- Because the program will be voluntary in nature, the State will be responsible for submitting to EPA the predicted and, eventually, the actual participation levels.

Analytic Methodology- The State will describe how they estimated participation levels and the effect of the activity on emissions

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16.5 Ensuring Adequate Public Participation

All States have well-established processes for public participation in the issuance of environmental permits, State implementation plans, and similar actions. These processes typically include:

- public notices,
- public hearings,
- notices of availability of technical information (e.g., draft permits and regulations).

While these processes generally satisfy the requirements of the CAA, they may not be as effective as they could be in including all elements of the affected community. Communities of concern and Tribal governments have historically been excluded from political decision-making processes. They may lack the time and resources necessary to participate effectively in the public participation process your State uses. They are often frustrated because their concerns have not been adequately heard or responded to, leading to environmental policy decisions that adversely affect their health and welfare.

When developing your EIP, you should consider whether your public participation process effectively includes all elements of the community affected by the EIP - including communities of concern, and Tribal governments. If it does not, you should modify the process accordingly. Your public participation process effectively includes all elements of the community if it:

- Gives people a say in decisions about actions which affect their lives,
- Ensures that the public's contribution will influence the decision,
- Communicates the interests and meets the process needs of all participants,
- Seeks out and facilitates the involvement of those potentially affected,
- Involves participants in defining how they participate,
- Communicates to participants how you used - or did not use - their input, and
- Gives participants the information they need to participate in a meaningful way.

Who should be included in public participation?

You should invite all stakeholders in the area that potentially could be affected by the EIP. Possible stakeholders include:

- Community, civic, neighborhood, and public interest groups (including those in communities of concern)
- Community service organizations (health, welfare, and others)
- Homeowner and resident organizations
- International organizations
- Media/Press
- Educational institutions and academia
- Environmental organizations

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- Federal, State, County, and Local Government agencies
- Tribal governments
- Industry, business, and trade organizations
- Unions
- Medical community
- Non-government organizations
- Religious communities
- Spiritual communities
- Affected communities (including indigenous peoples)
- Homeowner and resident organizations
- International organizations
- Media/Press
- Key policy and decision makers (e.g., representatives of agencies accountable for environmental justice issues, such as health officials, regulatory and enforcement officials, and social agency staff)
- Legislators (town/city council, county commissioners, representatives and senators from the State legislature and Congress)

Early in the process, identify the key individuals in the affected area who can represent various stakeholder interests. Learn as much as possible about stakeholders and their concerns through personal consultation, phone, or written contacts.

What role should stakeholders play?

All stakeholders - including communities of concern - should be equal partners in developing your EIP. Your public participation process must encourage their participation, and give adequate recognition to their unique knowledge and perspectives. You should solicit stakeholder involvement early in the policy-making process, beginning in the planning and development stages and continuing through the implementation and oversight phases.

What can I do to ensure fuller participation from stakeholders?

You need to make sure everyone who wants to participate understands the goals of the EIP, that they understand the process and their role in the process, that meetings are designed so that everyone can be heard, and that you will be responsive to their concerns. The following are some recommendations that will enhance participation:

- Ensure that meeting facilities are adequate (e.g., comfortable and large enough to include everyone, properly lighted, good acoustics)
- Ensure that meeting facilities are accessible (centrally located; readily accessible by public transportation, and by the handicapped)
- Address key cultural considerations (e.g., translators available for ethnic populations)

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- Hold meetings at times when anyone can attend (e.g., evening and weekend meetings accommodate working people, and careful scheduling can avoid conflicts with other community or cultural events).
- Use technology as needed to allow more effective communication (e.g., teleconferencing, audio/visual equipment)
- Design public meetings to ensure equal participation (e.g., avoid using a head table, use "open mike" meeting formats, involve the community in establishing the agenda, share meeting management roles with stakeholders)
- Make sure all stakeholders and the public at-large know where and when the public meetings will be held. A notice published in the public notice section of the local newspaper may not be sufficient if you seek to include all elements of the community. You may want to consider TV and radio notices, or specific contacts to stakeholders (by letter and by phone).
- Make technical information, meeting minutes, and other information readily available in convenient locations (perhaps more than one location, and on the Internet, if possible), and in a timely fashion.

Finally, as an act of good faith, when you make final decisions on your EIP, you should fully inform the public and each stakeholder of the decisions made, and the basis behind your decisions.

What special considerations for communities of concern should I address?

In addition to the above, your process should consider that communities of concern may not have the in-depth technical understanding of environmental issues that government and industry may have. These communities often lack the time, money, and scientific resources to develop that understanding - but they may still be very concerned about the impact of an EIP on their communities. Since it is important to fully engage communities of concern in the public participation process, you should make additional efforts as needed to inform and educate these communities about the issues at hand. You can do this by:

- Holding a series of public hearings, meetings, or workshops, instead of a single public hearing.
- Hold a two-day meeting (at a minimum), and use the first day for community planning and education.
- Incorporate cross-cultural exchanges in the presentation of information and the meeting agenda.
- Use a professional facilitator with knowledge and experience in environmental justice issues.
- Ensure that members of the community understand the timeline and process for developing the EIP, and how each element of the process fits into the overall agenda of the issues at hand.
- Develop a specific action plan at the end of the meeting to follow-up on community concerns, and identify contact persons who will carry out the plan.
- Distribute minutes and a list of action items to facilitate follow-up.
- Prepare technical summaries and reports in plain English - avoid technical jargon. If you must use technical terms, make sure they are clearly defined in plain English.
- Make information available in a timely manner. Since environmental justice stakeholders are full partners, you should give them information at the same time you submit it for formal review to State, Tribal and/or Federal regulatory agencies.

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- Consider other ways to inform environmental justice stakeholders (e.g., posters and exhibits, public databases/bulletin boards, telephone hotlines, workshops and education programs).

Where can I find additional guidance on public participation?

You can consult the following sources:

- "The Model Plan for Public Participation," November 1996, Public Participation and Accountability Subcommittee of the National Environmental Justice Advisory Council.
- "Interim Report of the Federal Facilities Environmental Restoration Dialogue Committee," February 1993, U.S. Environmental Protection Agency and the Keystone Center.
- "Community Relations in Superfund: A Handbook," January 1992, U.S. Environmental Protection Agency, Documents # EPA-540-R-92-009 and #PB92-963341.
- DRAFT "Partnering Guide for DOD Environmental Missions," July 1994, Institute for Water Resources, U.S. Army Corps of Engineers.
- "Improving Dialogue with Communities: A Short Guide for Government Risk Communications," September 1991, Environmental Communications Research Program, New Jersey Agricultural Experiment Station, Cook College, Rutgers University.

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16.6 FLM Notification Requirements

A FLM notification requirement applies to EIPs that may result in potential emission increases or ***foregone emission reductions***. Such results are associated with emission trading EIPs, financial mechanism EIPs, and CAIF programs. If the FLM expresses concern about the emission impacts of your EIP, you must resolve or commit to resolve the FLM's concern in your EIP SIP submittal. However, if your EIP follows the NO_X Budget Trading Rule, it already complies with the FLM notification requirements described herein, because the FLMs were able to participate in the development of that trading rule and SIP call.

Where appropriate to the type of EIP, your EIP SIP submittal should require that the relevant FLM be notified at least 30 days before a covered source's emissions are affected by the EIP. If the FLM agrees, your EIP may require notice in less than 30 days. You may commit to sending this notice to the FLM yourself or you may require sources to submit this notice.

Some additional provisions for FLM notification you may add include:

- Notices from sources within 100 km of the Class I area that are affected by your EIP, which may impact the Class I area.
- Specific provisions on how to address a situation when the FLM determines that the affected emissions will adversely affect the Class I area.

You should discuss and agree upon the specific procedures for FLM notification (and any changes to those procedures) with the FLM before implementing your EIP. If you wish to negotiate different notification requirements with the FLM before implementing your EIP (whether for yourself, or for individual sources), you may do so, as long as the FLM formally agrees with those requirements.

In addition to the EIP notification requirement described in this section, when an emission reduction is to be used to mitigate an adverse impact on an AQRV as a condition for the issuance of a PSD permit, sources and States must also meet specific notification requirements and other provisions set forth in the Federal PSD regulations for protection of Class I areas. In other words, for sources subject to PSD, the relevant PSD regulations apply in addition to the EIP guidance's requirements regarding notifications, coordination with the FLM, etc.

The AQRV means, for purposes of this guidance, visibility or a scenic, cultural, physical, biological, ecological, or recreational resource that may be affected by a change in air quality as defined by the Federal land manager for Federal lands and as defined by the applicable State or Indian Governing Body for non-Federal lands [Note: The EPA proposed this definition as part of the NSR Reform rule making. See 61 FR 38339, July 23, 1996. The EPA is currently reevaluating this definition in the final NSR Reform rule making package, and it will likely undergo some revision. The definition in this guidance will be changed at that time to conform to the definition promulgated for the NSR program].

Program-specific FLM notification requirements appear below:

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Trading EIPs

If your trading EIP program allows sources located in or within 100 km of a Class I area to use emission reductions in lieu of making a reduction, then your EIP must require you or the source notify the FLM of all potentially-affected Class I areas. Your trading EIP rule must require you or the participating sources to notify the relevant FLM at least 30 days before a participating source uses emission reductions in lieu of reducing emissions. Your EIP may require notice in less than 30 days if it is acceptable to the FLM.

In addition to the EIP notification requirement described in this section, when an emission reduction is to be used to mitigate an adverse impact on an air quality related value (AQRV) as a condition for the issuance of a PSD permit, sources and States must also meet specific notification requirements and other provisions set forth in the Federal PSD regulations for protection of Class I areas. In other words, for sources subject to PSD, the relevant PSD regulations apply in addition to the EIP guidance's requirements regarding notifications, coordination with the FLM, etc.

Multi-source emission cap-and-trade EIPs

If you have a multi-source emission cap-and-trade EIP, you may meet the FLM notification requirement in one of three ways. Your EIP SIP submittal may provide that you or your participating sources:

- Notify the relevant FLM of all potential sources which might be using allowances 30 days prior to the start of your EIP,
- Notify the relevant FLM of all potential sources which might be using allowances at the start of each compliance period, or
- Are not required to provide prior notice if it is acceptable to the relevant FLM.

If your EIP is submitted to comply with the NO_X Budget Trading Rule in response to the NO_X SIP call, you have already addressed the FLM notification requirements.

Financial Mechanism or CAIF EIPs

If your financial mechanism or CAIF EIP allows sources in or within 100 km of a Class I area to pay a fee in lieu of a making reduction, then your EIP must contain provisions that require you or the source to notify the FLMs of all potentially-affected Class I areas. Your financial mechanism or CAIF EIP rule must require that you or the participating sources notify the relevant FLM at least 30 days before a participating source pays a fee in lieu of reducing emissions. Your EIP may require notice in less than 30 days if it is acceptable to the FLM.

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16.7 Area-wide RACT provisions

To meet CAA RACT requirements, stationary sources are required to reduce their emissions through the application of RACT. Your EIP may allow sources subject to RACT to avoid direct application of RACT technology by:

- Trading with other sources subject to RACT.
- Trading with sources not subject to RACT.
- Paying an emission fee.

In doing so, it is important to note that these sources are not avoiding the RACT requirements; they are avoiding the direct application of RACT technology. The reductions called for by RACT requirements are satisfied through other means.

If your EIP allows sources to avoid direct application of RACT technology, your EIP must ensure that the level of emission reductions resulting from implementation of the EIP will be equal to those reductions expected from the direct application of RACT. This requirement may apply to any emissions trading EIP or emission fee program. If you require RACT to be applied irrespective of the EIP, then this is not an issue for your EIP.

Minor sources may not generate emission reductions when the application of ***best available control technology (BACT)*** results in lower emission limitations than the application of RACT if:

- the requirement for BACT has been approved by EPA in the minor source NSR SIP, and
- the BACT emission limitations are federally enforceable.

In addition to these requirements all EIP's must demonstrate an environmental benefit described in section 4.3.

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16.8 Provisions for sources with Title V permits

The CAA's Title V operating permit program, which is codified in 40 CFR Parts 70 and 71, is designed to ensure effective implementation of all applicable requirements of the CAA for major sources of air pollution, and for other sources subject to the provisions of title V. The States ensure that these sources of air pollution and certain other sources addressed by national emission standards, obtain operating permits. A facility's operating permit must list all of the CAA requirements that apply to that facility, including monitoring and other provisions necessary to assure compliance with each applicable requirement.

The operating permit program requirements are authorized and approved under title V of the CAA. As such, the permit requirements are separate and distinct from the SIP requirements, which are authorized under the separate authority of title I. As a result, operating permit programs stand alone and do not require implementation plan approval. Also, title V program requirements, such as permit modification requirements, may not be subsumed, overridden, or otherwise affected by requirements of a discretionary EIP approved into a SIP. If a facility that has a title V operating permit wishes to participate in your approved EIP, you must modify the facility's operating permit to include the detailed compliance provisions necessary to assure compliance with the EIP. Thus, the permit becomes a valuable tool to ensure the source meets the requirements of the EIP.

Once the permit includes terms and conditions necessary to implement the EIP (as described below), the source may typically make individual trades under the EIP without the need for future formal permit revisions. This is true because most trading activity under such a permit would already be addressed and allowed by the specific terms and conditions of the permit and such trading would not normally conflict with the permit. This is the principle expressed by section 70.6(a)(8) of the CFR, which states that permit revisions are not required for trading program changes that are "provided for" in the permit.

Generally, permit content will be largely dictated by the individual EIP provisions being implemented, and whether they address trading, use, generation, averaging, etc. However, it is critical that the permit identify the following, as a minimum:

- the specific emissions units subject to the EIP,
- the pollutants addressed by the EIP,
- the identification of the SIP requirements for which the EIP serves as an alternative method of compliance, and a statement that compliance with those SIP requirements will be determined using the EIP's compliance provisions;
- detailed compliance requirements, such as emission quantification protocols;
- the specific requirements of title V that apply to each unit, including, for example, monitoring, recordkeeping, reporting, and compliance certification;
- baseline emissions levels, allocations, and caps, where they must be defined for individual sources (whether the SIP or TIP includes them or not);
- requirements for submittal of notices of credit generation and use (for multi-source cap and trade EIPs), and credit tracking information (for open market trading and other EIPs);
- penalty and corrective action provisions;

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- procedures for public disclosure of information; and
- notification requirements for FLMs in Class I areas, among others.

In addition, section 7.2(c) of this guidance, concerning emission averaging EIPs, requires operating permits to limit emissions to the capped amount decreased by emission reductions transferred to other sources and increased by emissions received from other sources, and to define from which other sources the source can obtain emissions. Section 7.3(d), concerning source-specific cap EIPs, also contains a similar requirement.

Many of these EIP (and title V) requirements applicable to a specific source will not change during the term of the permit, thus, few formal permit revisions will likely be triggered after you initially incorporate them into the permit. For example, the creation of new emissions credits, the usage of existing credits, or the trading of credits will not normally trigger formal permit revisions. This is because title V does not require the permit to contain a contemporaneous running total of credit balances held by a source. However, revisions may be needed when certain requirements change after the permit is issued. Some examples of circumstances that would trigger permit revision are:

- entry of a new emissions unit into the trading program,
- a change in an emissions quantification protocol or other compliance provision from what was specified in the permit,
- revisions required independently by applicable requirements or other requirements of title V; and
- trading transactions that are not allowed or that conflict with the permit.

Finally, concerning permit content, your EIP rule must require that sources subject to title V place a copy of any notices required by an EIP in the operating permit file, and make these notices available to the public. These notices should be designed to provide meaningful information in the permitting context, and should help the public to determine the lawful emissions credits generated by or available to the source at any given time.

One title V provision you should be mindful of when developing your EIP is found in section 70.7(e)(2)(i)(B) of the CFR. This provision allows you to use minor permit modification procedures to process permit modifications involving the use of EIPs, but only if minor permit modification is explicitly provided for in your SIP. Although using this provision would not reduce the frequency of any required permit revisions, it would reduce the administrative burdens and time involved in processing such revisions, and thus could provide a measure of streamlining when permit revisions are needed. If you decide to use this provision, contact EPA for further guidance on how to implement it within the context of your EIP.

Alternative operating scenarios (AOS), as described in section 70.6(a)(9) of the CFR, can also help reduce the frequency of formal permit revisions necessary for sources subject to EIP provisions. For example, you could use an AOS to allow a source to switch from traditional SIP-based requirements to EIP requirements that act as a compliance alternative for the traditional requirements during the term of a permit without the need for formal permit revisions. In this example, the permit would initially require the source to comply with the traditional requirements of the SIP and incorporate the EIP requirements as

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an AOS. Then, when the source decides to switch to the EIP requirements, in lieu of a permit revision, the permit would merely require the source to record, contemporaneously with making the change, which scenario it is operating under in an on-site log, consistent with the provisions of section 70.6(a)(9).

Neither EPA nor State permitting authorities have had extensive experience with EIPs and incorporation of EIP provisions in title V permits, and few discretionary EIP programs have been approved to date. As such, this guidance cannot comprehensively address all potential permit revision or content issues that could arise during the implementation of an EIP. You and the EPA must work together during the early stages of EIP development to minimize potential conflicts and inconsistencies that might arise between the EIP and permit programs. Such coordination will help ensure that:

- title V permits can be designed to contain up-to-date, clear, practically enforceable terms that reflect the requirements of the EIP
- permit revisions are triggered only when necessary.
- if a permit revision is triggered, a streamlined revision procedure is available.

Finally, your EIP SIP submittal must include a showing that your title V operating permit regulations do not interfere with the incorporation of EIP provisions into title V permits.

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16.9 Provisions for ozone inter-precursor trading

In EIPs where trading occurs as allowed under this guidance, the trading of emission reductions of one of a pollutant's precursors for emissions reductions of a different precursor for that pollutant is called inter-precursor trading. For example, inter-precursor trading occurs if VOC emission reductions are substituted for NO_X emission reductions obligations, as both pollutants are ozone precursors. The rest of this discussion applies specifically to inter-precursor trading between VOC and NO_X under EIPs that address the ozone NAAQS. Note that for those programs submitted to comply with the NO_X SIP call, VOC emissions cannot be substituted for NO_X emissions.

Your trading EIP may allow ozone inter-precursor trading if you demonstrate that anticipated trades will either reduce emissions, or not increase emissions. The best way to determine if your EIP will reduce emissions or not increase emissions is by using air quality modeling. Air quality modeling for individual ozone inter-precursor trades is not required if you include provisions in your EIP that apply to all ozone inter-precursor trades. To show the suitability of such trades, your EIP must:

- Have an approvable attainment demonstration if you need an attainment demonstration. An approvable attainment demonstration contains all elements necessary to meet the requirements of section 110 of the CAA, and applicable guidance.
- Require that the technical justification be consistent with your approvable attainment demonstration.
- Include the required geographic restrictions described in Section 6.5(b).
- Require trades to comply with the HAP framework in section 16.2 if the trade involves VOCs.
- Require sources to use at least the same mass of EIP reductions as are required to meet their original compliance obligation. For example, if source A has an emission reduction obligation of 100 tons of VOC or NO_X, your trading EIP must require at least 100 tons of the other pollutant.
- Demonstrate that anticipated trades reduce or maintain ozone levels in the area where the user source is located.

Air quality modeling can determine the effects of the anticipated ozone inter-precursor trades because it is sensitive to changes in emissions throughout the region. Air quality modeling is unique in its ability to provide information on the differential impacts of VOC and NO_X decreases (or foregone reductions or increases), and the impacts of decreases (or increases) that occur in different places. Therefore, you need to perform air quality modeling to determine whether VOC or NO_X reductions are most effective, and the correct ratio for inter-precursor trades if you determine that a trade of one ton of VOC (or NO_X) for one ton of NO_X (or VOC) does not reduce or maintain ozone levels.

For certain trades in certain geographic areas, you may assume a reduction or no change in ozone levels by doing minimal or no additional air quality modeling for trading EIPs. Additional modeling may not be required when your trading EIP limits inter-precursor trading to:

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- Sources using VOC emission reductions to satisfy NO_X emission reduction compliance obligations when the user and generator are both located in the same ***urbanized area*** if you demonstrate that the area is ***VOC limited***.
- Sources using NO_X emission reductions to satisfy VOC emission reduction compliance obligations when the user and generator are both located in the same ***rural area*** if you demonstrate that the area is ***NO_X limited***.

Your EIP can allow other types of ozone inter-precursor trading if you:

- Submit air quality modeling showing that such trades reduce or maintain ozone levels in the ozone non-attainment area.
- Submit air quality modeling demonstrating the correct trading ratio.

Before allowing ozone inter-precursor trading you should consider the other potential environmental effects your EIP may have on:

- acid deposition,
- eutrophication,
- haze, and
- greenhouse effects.

Ozone interprecursor trading can be used to meet NSR offset requirements, regardless of whether the NSR offset emission reductions are generated through an EIP. The interprecursor trading guidance provided in this section applies generally to NSR offsets (regardless of whether they come from an EIP) as well as to EIPs. See section 6.3(d) and section 6.5(b) of this guidance for additional NSR requirements pertaining to geographic restrictions for trading when emissions reductions are used for offsets.

Under appropriate conditions, a new VOC source that is required to obtain offsets under part D NSR can meet that requirement with all VOC offsets, all NO_X offsets, or a combination of VOC and NO_X offsets, and vice versa for a new NO_X source. When interprecursor trading is used, you must multiply the interprecursor trading ratio that applies in that non-attainment area by the otherwise required offset ratio to determine the total quantity of offsets the source is required to obtain.

For example, a new 100 ton VOC source (determined by estimating the source's total annual potential to emit in tons) that is locating in a VOC limited, serious 1-hour ozone non-attainment area wishes to use all NO_X emissions reductions to satisfy its offset compliance obligations. Multiply the inter-precursor trading ratio that is determined for that non-attainment area (e.g., by air quality modeling) by the required offset ratio for that area. The inter-precursor trading ratio for that area established by the State in its EIP is 2:1 (NO_X:VOC). The required offset ratio for that area is 1.2:1.

Without interprecursor trading, the source would be required to obtain 120 tons of VOC emissions reductions to offset its potential new annual emissions (i.e., 1.2 x 100 tons per year). If interprecursor trading is used, the source would be required to obtain 240 tons per year of NO_X emissions reductions

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to satisfy its offset requirement (i.e., 1.2 x 2 x 100 tons per year). If the source wishes to use both NO_X and VOC offsets, only that portion of the offset requirement that would be met with NO_X offsets needs to be multiplied by the inter-precursor trading ratio. For example, if the same source wishes to offset the 100 new tons of VOC with half VOC and half NO_X offsets, the source would need 60 tons per year of VOC offsets (i.e., 1.2 x 50 tons per year) and 120 tons per year of NO_X offsets (i.e., 1.2 x 2 x 50 tons per year).

Please see section 6.3(d) for additional requirements pertaining to geographic restrictions for trading and the NSR program.

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16.10 Provisions to ensure consistency with transportation conformity

To meet transportation conformity requirements, MPOs must regularly compare their projected motor vehicle emissions with the SIP emission budgets for motor vehicles, taking into account all regionally-significant transportation projects and other projects intended to generate emission reductions.

Avoiding double counting between trading EIPs and transportation conformity

To avoid ***double-counting*** the emission reductions generated by mobile sources in trading EIPs, you must ensure coordination between the emission trading EIP and the conformity analyses in the area in which the trading EIP takes place. Before the EPA approves your EIP rule, you will need to modify your "conformity SIP" to ensure that MPOs do not use any reductions they receive notice about for transportation conformity. Similarly, reductions the MPO relies on in a ***transportation conformity determination*** must be precluded from use in trading. The EPA will release guidance on modifying your conformity SIP to address issues of the interaction of trading EIPs with the conformity process.

Your trading EIP rule must contain requirements that mobile sources generating emission reductions certify the reductions are not used to meet transportation conformity requirements. Specifically, your rule must require a generator of mobile-source emission reductions to notify you, the MPO in the area, and the State department of transportation of the generator's intention to generate emission reductions. Once notified, the MPO may not use these emission reductions to satisfy the requirement for transportation conformity. The generator must provide enough information to the MPO about the likely emission reductions from the activity to allow the MPO to adjust its regional conformity analyses appropriately. You must also include provisions for assessing penalties against sources that use EIP emission reductions that are not surplus to transportation conformity requirements.

Using EIP emission reductions for transportation conformity

You may allow the MPOs in your State to use emission reductions generated by sources participating in a trading EIP to meet transportation conformity requirements if you take the following actions:

- You must modify your conformity SIP to ensure that MPOs purchase the number of emission reductions needed, and that the emission reductions are valid.

- You must require MPOs to obtain emission reductions at the time of the conformity determination for every year in which emissions are expected to exceed the motor vehicle emission budget or fail conformity's emission reduction tests. This requirement applies to all of the 20 years in the planning horizon of a conformity demonstration.

- Emission reductions purchased by the MPO must be valid for use in the future year that the MPO applies the reductions to its conformity demonstration.

- You must require MPOs to obtain emission reductions and submit to you a notice of intent to use emission reductions at the time they make conformity demonstrations.

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- You must validate the emission reductions at the time of a conformity demonstration, rather than at the time of use.

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16.11 Provisions for localized increases of criteria pollutant and precursor emissions

A trading EIP that allows individual sources to increase their annual emissions of criteria pollutants or their precursors could lead to significant localized increases of the criteria pollutants. Localized pollutant increases from individual sources are of concern due to human health and environmental effects, and their impact on communities of concern. The pollutants of concern are CO, SO_2, PM, and NO_X. Such significant increases may also trigger NSR requirements as described in section 6.3(d). Localized VOC increases are addressed in section 6.2(b), and section 16.2.

A source using emission reductions generated by other sources or at an earlier time in lieu of making a reduction in emissions has the potential to cause a localized increase in pollutants. If the net annual increase in emissions from an individual source using EIP emission reductions is greater than the significance levels the EPA is establishing in this guidance for this purpose, then you must require that source to model and analyze the potential impact that the emission trading EIP has relative to the emissions prior to implementation. You should also analyze the health and environmental impacts with respect to environmental justice concerns discussed in section 4.2. This requirement applies to both attainment and non-attainment areas. The significance levels are defined in Table 6.1, below. These levels are consistent with the significance levels the EPA has established in 40 CFR 51.166(b)(23)(i) for the purpose of determining a net emissions increase or the potential of a source to emit a pollutant under PSD. The following table from 40 CFR 51.166(b) defines a significant annual increase for each of these pollutants.

Table 16.11: Significant Annual Increases for Criteria Pollutants

Pollutant	Significant Increase
CO	$100 tpy
SO_2	$40 tpy
PM_{10}[1]	$15 tpy
Pb[2]	$0.6 tpy
NO_X	$40 tpy

[1]This refers to the PM10 national ambient air quality standards in effect prior to July 16, 1997. As of the publication date of this guidance, these standards continue to apply in accordance with the July 16, 1997 Presidential Directive (62 Federal Register 38428, July 18, 1997).

[2]As discussed in section 1.1, EIPs should not be developed to address Pb emissions.

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The specific modeling approach you use will depend on the criteria pollutant standard covered by your EIP. The modeling must comply with the modeling guidelines in 40 CFR Part 51, Appendix W.

In addition, there may be cases when a source participating in an EIP implements a control strategy to reduce emissions of one criteria pollutant, emissions of another criteria pollutant increase. These collateral increases could occur at the same source, or represent a shift of emissions to another source. If the collateral increase results in a net emissions increase above the significance level (see the above table), then you must require the source to model and analyze the potential localized impact the collateral increase from the emissions trading EIP has relative to the emissions prior to implementation. You should also analyze the health and environmental impacts with respect to environmental justice concerns discussed in section 4.2.

This section only applies to emission increases above what the source had been emitting before the implementation of the trading program. It does not apply to foregone reductions. However you may limit application of these additional requirements to significant increases above a higher emissions level, if you:

- have performed air quality modeling of these sources using this higher emission level, and
- determined that there will not be a NAAQS violation if the source emits at the higher emissions level.

You do not need to include this requirement if the emissions presumed in this modeling exercise represent the highest possible emissions from all sources participating in your trading program assuming their:

- highest potential capacity,
- highest hours of operation, and
- the use of the raw materials that result in the highest emissions.

Another way to meet this requirement is for your EIP to require all sources, regardless of size, to be subject to PSD review if:

- the source increases its actual emissions of a NAAQS precursor,
- the increase occurs after you implement the EIP, and
- the emissions increase exceeds a PSD significance level.

The EPA has proposed a program called the Intervention Level program to address 5-minute concentrations of SO_2 greater than 0.6 ppm (62 Federal Register 210). If the EPA promulgates regulations implementing this program, you will need to consider the potential for your EIP to create high short-term concentrations of SO_2.

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16.12 Provisions for inter-credit trading

Inter-credit trading is the acquisition and use of an emission reduction generated under one EIP to meet the requirements of another EIP. If your EIP includes intercredit trading your EIP must:

- specify that the use of emission reductions in a program other than the one that generated the reductions can occur only if the emission reductions meet the more stringent requirements of the multiple programs,
- require that sources adopt the MRR procedures and quantification protocols from the more stringent EIP, so that accuracy and enforceability are not compromised, and
- include specific provisions to prevent double-counting of emission reductions -- prohibit the use of the same emissions reduction for more than one use (double counting) (except for the emissions averaging as explained below)
- maintain the level of emissions measurement accuracy required of each program.

To avoid double-counting, the EPA requires that if a source reduces emissions and that emission reduction results in multiple environmental benefits, that source must sell all the resulting surplus emission reductions or allowances to another single source.

There is one exemption to this double counting prohibition. Within an emissions averaging program an emission reduction strategy used within an emissions averaging program to meet RACT could be used to meet the MACT requirement, providing the emission reductions meet all the requirements of the respective programs.

Many mobile source programs have certification provisions that allow for averaging, banking, and trading for compliance. Recall that this EIP guidance does not apply to mobile source ABT programs. Because emission reductions may only be claimed once, you must demonstrate that emission reductions generated are surplus to any reductions used to comply with an ABT component of a mobile source program. Some rules, such as the Federal rules for on-highway heavy-duty diesel engines and locomotives, contain provisions to ensure that emission reductions are not double counted between the ABT certification program and another mobile source trading program.

Another issue when combining EIPs is the relative accuracy of various emission measurement programs. Some EIPs require more accurate emission measurement techniques. Trading EIPs and fee EIPs where a fee is levied on actual emissions will generally require more accurate quantification of the emission reductions than other programs. For a cap-and-trade program, in particular, you should utilize the best available quantification and testing methodologies for measuring emissions for the participating sources. Currently, some source categories (e.g., mobile and area sources) lack sufficient quantification and testing methodologies to ensure adequate certainty for inclusion in a cap-and-trade program. However you can include emission reductions from these sources in other EIPs (e.g., open market trading). However, each emissions trading program must retain its level of emission measure accuracy.

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16.13 Provisions for EIPs that include RACT sources

If your trading EIP covers RACT sources, you must include provisions for RACT sources that generate and use emission reductions. The following section applies to emission trading EIPs that address attainment of the ozone standard by allowing sources to comply with RACT limits by using an EIP. This guidance allows for compliance flexibility in averaging times for any trading EIP that involves specified mass emission caps or trading between sources with emission rate limits required for an attainment strategy such as RACT. The averaging provision is specifically for RACT averaging and not to excuse RACT source(s) from complying with all applicable CAA requirements.

States typically set a presumptive RACT emission limit for a category of sources rather than on a source-by-source basis. Specific sources within a source category may not be able to comply with the presumptive limit because of unique physical, financial or product attributes. In these situations you may impose alternative RACT regulations that apply to a specific source. Sources with an alternative RACT limit usually are allowed to emit at a higher rate than sources covered under the presumptive RACT limit.

RACT sources that generate EIP emission reductions

Sources subject to presumptive and alternative RACT limits may generate reductions for use in a trading EIP. However, the amount of the reduction must be based on application of the presumptive RACT limit rather than the alternative RACT limit. If you have not adopted a presumptive RACT emission limit then your presumptive RACT limit is the applicable national presumptive emission limit (e.g., the limit contained in the ***control technique guideline (CTG)*** for the source category). Therefore, the trading baseline for sources having an alternative RACT limit is the presumptive RACT limit. Sources subject to source-specific RACT limits that are lower than presumptive RACT limits may only generate emissions reductions to the extent the emissions are below the RACT limit that applies to the specific source.

Sometimes alternative RACT determinations are considered a type of ***Alternative Emission Limitations*** (AELs), Once your EIP is adopted you may not issue any new AELs. See section 6.5(h) for more information.

RACT sources that use EIP emission reductions

Any State that wishes to allow long-term averaging for compliance evaluation for RACT limits must include in the SIP submittal:

- a demonstration showing that the combined effect of the specified averaging time is consistent with attaining the O_3 NAAQS;
- a justification that the long-term average is needed
- satisfaction of applicable RFP/ROP requirements on the basis of typical summer day emissions;
- a demonstration showing that combined daily emissions from all affected sources covered by a Federal RACT requirement are no greater than the combined daily emissions from such sources

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that would result from the implementation of all applicable source-specific RACT requirements, if applicable.

The averaging time for any specified emission rate limits for trading purposes shall be consistent with:

- attaining and maintaining all applicable NAAQS,
- meeting RFP/ROP requirements, and
- ensuring equivalency with all applicable RACT requirements (e.g. calculated coating of solid applied basis, use of more stringent of actual or allowable baselines, etc).

For all RACT sources receiving a long-term average the State must:

- justify the need for long-term averaging, consistent with EPA's policy on long-term averaging[3], for example by demonstrating that compliance or compliance assessment on a short-term average basis is infeasible;
- ensure that averaging times do not interfere with the enforceability of emission limits.
- include the impact of using mobile source and area source emission reductions (i.e., generated from sources without a 24-hour averaging requirement) for compliance with stationary source requirements, if applicable;
- show how the trade meets all criteria of the applicable trading programs (e.g., OMTR cap-and-trade) under which the source is seeking to demonstrate compliance; and
- for EIPs that affect significant sources of PM or PM precursors, provide averaging times no longer that 24 hours or demonstrate that the program will not adversely affect NAAQS attainment.

For VOC EIPs that provide RACT sources with an averaging time of more than 24 hours you must provide:

- a technical and economic justification for the longer averaging time,
- a showing that the specified averaging time is consistent with attaining the O_3 NAAQS and satisfying RFP/ROP requirements, as applicable, on the basis of typical summer day emissions, and
- a calculation that the longer averaging time will produce emissions reductions that are equivalent to the reductions that would be achieved if RACT were compiled within a daily basis RACT requirements.

Criteria for long-term averages

For EIPs that affect VOC and NO_X for ozone purposes your EIP must:

- have an averaging time of no more than 30 days,

[3]Memorandum from O'Connor, J. R., OAQPS, to Regional Air Division Directors, "Averaging Times for Compliance with VOC Emission Limits - SIP Revision Policy", January 20, 1994.

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- prohibit emission reductions created outside the ozone season from being used during the ozone season, and
- within an OMT EIP, limit DERs created in 1 year to use the same or in a subsequent year, subject to the restrictions of all applicable requirements.

For NO_X sources that are required to comply with the ***NO_X MOU regulation*** or the NO_X SIP call, the averaging time of an emission limit must not exceed a compliance period of an area's ozone season. Sources involved with EIP trades must meet all requirements applicable to the program.

The averaging time for any specified emission rate limits for trading purposes shall be consistent with:

- attaining and maintaining all applicable NAAQS,
- meeting RFP/ROP requirements, and
- ensuring equivalency with all applicable RACT requirements (e.g. calculated coating of solid applied basis, use of more stringent of actual or allowable baselines, etc).

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16.14 Provisions for new source review and trading

The CAA and EPA's rules and guidance describe the kinds of emissions reductions that may be used for ***NSR offsets*** and ***NSR netting*** in a number of ways that are different from the requirements for EIP emissions reductions that are set forth in this guidance. Therefore, the NSR program may affect implementation of a trading EIP and, in turn, the EIP may affect implementation of some portions of your NSR program(s). Your NSR regulations may have more requirements than the Federal program so you need to determine if any additional provisions are required to ensure that your EIP is implemented appropriately.

As stated in section 1.7, this EIP guidance does not supersede the established requirements of the NSR program, and the NSR requirements may not be lifted by:

- your adoption of an EIP or
- by the approval of that EIP into a SIP.

Under some circumstances, however, emissions reductions generated from EIPs may qualify for use as offsets or for netting under the NSR program. Should you wish to allow sources to meet their offset or netting requirements with EIP emission reductions, such sources may only use those emission reductions which independently meet:

- relevant NSR requirements in the CAA
- EPA's NSR regulations and guidance, and
- requirements of this guidance, except where this guidance specifies otherwise.

Depending on your EIP requirements, sources needing NSR offsets may obtain them through the traditional method or through an EIP. Not all offset transactions are subject to this EIP guidance. This guidance applies if reductions from the EIP can be used for NSR purposes. Offsets that are not generated through an EIP must only meet NSR program requirements.

The NSR program applies to major new and modified sources in attainment and non-attainment areas throughout the country. Some NSR requirements apply to major sources specifically in non-attainment areas. These are non-attainment NSR requirements under part D of the CAA. PSD requirements under part C of the CAA apply to certain major sources in areas designated attainment or unclassifiable. Major sources not covered by the PSD program must also ensure that the NAAQS will be protected. The Federal NSR requirements are codified as shown below in Table 6.2:

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Table 16.14: NSR Requirements		
Program	**CAA Citation**	**CFR Citation**
Non-attainment NSR	§172 & §173; (subparts 2 - 4 of part D for specific pollutants)	40 CFR 51.165(a)
PSD	§§ 160 - 165	40 CFR 51.166 & 40 CFR 52.21
NAAQS in Attainment & Unclassifiable Areas	§110(a)(2)(C)	40 CFR 51.165(b)
Minor NSR (all areas)	§110(a)(2)(C)	40 CFR 51.160

The key requirements for major sources wishing to locate or expand in non-attainment areas are:

- Obtaining sufficient reductions (at least 1:1) to "offset" emission increases.
- Application of the ***lowest achievable emission rate (LAER)***.
- Certification that all sources owned and operated statewide by the same owner are in compliance.
- Analysis of alternative sites, sizes, production processes and environmental control techniques.

The key PSD requirements for major sources wishing to locate or expand in attainment or unclassifiable areas are:

- Application of BACT.
- Protection of the NAAQS.
- Assurances that air quality does not degrade more than prescribed maximum allowable increments.
- Protection of Class I areas.

You must ensure that:

- Major sources and major modifications are not exempted from any NSR or PSD requirement because of the implementation of your EIP.
- A major source or major modification may not avoid NSR review by using an EIP except for the use of emission reductions that meet the NSR/PSD requirements for netting when the EIP emission reductions occur contemporaneously with their use and occur at the same source as the emission increase.

You may allow sources to use emission reductions generated by your EIP to comply with PSD/NSR requirements under the following conditions:

- In areas that are non-attainment for the ozone standard, reductions of ozone precursors may be used to comply with the NSR offset requirement if, at a minimum, all Federal NSR provisions are met. For example:

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- -- The location of the generator source meets the geographic restrictions at section 173 (c) of the CAA.
- -- Sources must obtain sufficient offsets to ensure that their total *annual* tonnage of increased emissions is offset, not just the portion that occurs during the ozone season.
- -- Sufficient reductions are retired to meet the offset ratios mandated in the CAA.

- C Emission reductions generated by an OMT EIP used to meet the NSR offset requirements must meet the special provisions outlined in section 7.5 of this guidance.
- C An emission reduction that is generated or used to comply with any other CAA requirement (including title IV Acid Rain requirements) may not be used as an NSR offset.
- C An emission reduction used as an NSR offset may not be used to meet any other CAA requirement (including title IV Acid Rain requirements).
- C Sources using emission reductions to mitigate potential increment violations or Class I impacts must meet all other PSD requirements.
- C An emission reduction used as an NSR offset must be federally enforceable.
- C Sources that are required to obtain offsets or netting credits have an obligation to obtain such credits, when they are not continuous credits, for the life of the source needing the credit.

Using an EIP to implement a PAL

You can implement a plantwide allowable emission limit (PAL) to exempt a source from future NSR requirements. These PALs are voluntary source-specific emissions cap established on a per pollutant basis. A source-specific emissions cap can function as a PAL if all PAL requirements are met, as established in the NSR/PSD regulations.

Emissions banks for NSR purposes

If you choose to create an emissions bank in your EIP that will be used solely for NSR purposes, some of the EIP requirements can be replaced by NSR requirements. These are discussed in more detail in section 16.15, "Provisions for banking emission reductions."

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16.15 Provisions for banking emission reductions

Some trading EIPs include provisions that allow sources to bank emission reductions. Emission reduction banking occurs when sources set aside emission reductions for use in a later time period. You may choose to allow sources participating in your EIP to bank emission reductions to achieve one or more of the following goals.

- Provide compliance flexibility to participating sources.
- Encourage early reductions.
- Encourage early application of innovative technology.

Sources can bank emission reductions in one of two ways, as ***rate-based emission reductions*** or as ***mass-based emission reductions***. Rate-based emission reduction banking has been occurring for decades. Strictly speaking, what is being "banked" in this approach is a reduction strategy which results in a permanent, continuous stream of reductions over time. This is contrasted with mass-based emission reduction banking where what is being banked is discrete units of reductions (usually measured in tons) which can be generated from either permanent or temporary reduction strategies. The type of emission reduction banking you include in your EIP depends on the type of trading EIP you choose to implement.

- Emission averaging EIPs *can* include rate-based emission reduction banking.
- Source specific cap EIPs *can* include either rate-based or mass-based emission reduction banking.
- OMT EIPs *inherently* include mass-based emission reduction banking.
- Multi-source cap and trade EIPs *can* include mass-based emission reduction banking.

Rate-based emission reduction banking

The principal feature of rate-based emission reduction banking is that the reduction strategies result in a permanent, continuous stream of emission reductions. Rate-based emission reductions must meet all the applicable requirements of this guidance. Emission reductions banked as a rate-based emission reduction strategy also have the following characteristics.

- Sources generate rate-based emission reductions through an on-going, enforceable action such as:
  - -- permanently changing operating parameters or raw material inputs,
  - -- permanently applying an emission control device, or
  - -- a permanent shutdown.
- Emission reductions banked from a on-going emission reduction strategy are expressed in terms of mass of emission reductions per unit of time (e.g., tons per year, tons per production per month).
- The emission reduction generator has not designated a use at the time the generator implements the emission reduction strategy.

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- The emission reduction generator can use or sell the emission reductions resulting from the rate-based emission reduction strategy for some future, potentially currently undefined, emission reduction obligation.
- Sources use the rate-based banked emission reduction strategy contemporaneously with the generation of the emission reductions.
- Unused emission reductions associated with a rate-based banked emission reduction strategy do not accumulate in the bank over time. That is, if they are not used in the compliance period in which they are generated, they are not available for use in any future compliance period.

Mass-based emission reduction banking

The principal feature of mass-based emission reduction banking is that the emission reduction actions result in a discrete amount of emission reductions over a specific, finite time period. Mass-based reductions must meet all the applicable requirements of this guidance. Emission reductions banked as a mass-based emission reduction strategy also have the following characteristics.

- Sources generate mass-based emission reductions through actions such as:
  - -- temporarily or permanently applying an emission control device,
  - -- temporarily or permanently changing operating parameters or raw material inputs, or
  - -- using fewer allowances than allocated in a multi-source cap and trade EIP.
- Unused emission reductions that occurred in previous compliance periods resulting from continuous emission reduction strategies that the generator has designated as or converted to a mass-based emission reduction strategy.
- Emission reductions banked from a mass-based emission reduction strategy are expressed in terms of emission reductions generated at the given activity level (e.g., mass) for a given period of time.
- The emission reduction generator has not designated a use at the time the generator implements the emission reduction strategy.
- The emission reduction generator can use or sell the emission reductions resulting from the mass-based emission reduction strategy for some future, potentially currently undefined, emission reduction obligation.
- Sources can use banked emission reductions from a mass-based reduction strategy in later compliance periods.
- If the same source conducts several emission reduction strategies over several compliance periods, mass-based emission reductions banked during subsequent periods are added to the mass-based emission reductions banked from earlier periods.
- If participating sources bank mass-based emission reductions at a greater rate than sources use them, the amount of the banked mass-based emission reductions can increase over time.

Banking options

Many on-going emission reduction actions may be banked either as a rate-based emission strategy or as a series of mass-based emission strategies. You should require generators to declare at the time they

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bank an emission reduction which type of emission reduction they have created. This avoids the possibility of double-banking of the emission reduction.

An example of such an on-going emission reduction action is as follows. A source generates emission reductions by installing a control device on a certain date that continues to generate emission reductions from that day on and the source makes an enforceable commitment to continuing the emission reduction. In this case, a generator can define this emission reduction as:

- a rate-based emission strategy because it generates continuous emission reductions, or
- a mass-based emission strategy because the emission reductions could be split into discrete time periods.

Safeguards for EIPs with banking provisions

If you choose to allow banking of emission reductions in your EIP, or to implement an open market trading program, you must:

- demonstrate how likely it is that emission spiking will occur,
- include safeguards in your EIP to prevent emission spiking commensurate with the probability that spiking will occur, and
- include in your EIP SIP submittal a demonstration showing that banking and associated trading of banked emission reductions will not interfere with attainment or maintenance of the NAAQS or RFP/ROP.

Some ways to make this demonstration include:

- Demonstrating that there will not be many emission reductions in the bank by showing:
  - There is a small number of potential participants.
  - The current emission reductions from the potential participants is small (e.g., less than 10 percent of the current inventory).
  - The expected amount of emission reductions in the bank is expected to be small using an area's emission control cost data and economic models to predict emission trading activity.
- Demonstrating that withdrawals will not be concentrated during periods that coincide with attainment or maintenance showings, or RFP/ROP requirements by showing:
  - There is a small number of potential users.
  - The potential emissions from all participants is small (e.g., less than 10 percent of the inventory).
  - The expected timing of emission withdrawals will be random or, at least, spread out over a large time period, using economic models to predict trading activity.
  - The need for emission reductions is small using area specific source control data.

Lifetime of banked emission reductions

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As you design the banking provisions of your EIP, you will need to decide whether banked emission reductions will have an unlimited or a limited lifetime. The EPA supports unlimited lifetime for emission reductions whenever practical, because they:

- provide more certainty and flexibility to sources participating in trading.
- avoid the emission spikes that could potentially occur at the time that the valid life of the emission reductions would expire.
- do not, in general, pose a threat to the overall goals of EIPs.

Unlimited lifetime of banked emission reductions may present enforcement problems because the Federal statute of limitations at 28 U.S.C. Section 2462 usually prohibits Federal enforcement actions under environmental statutes after 5 years. States may have similar statutes of limitations. To address this, you may only allow emission reductions to have an unlimited lifetime or a lifetime of more than five years if:

- Your EIP rule specifies that all sources that utilize emission reductions older than 5 years are deemed and required to have waived any defenses under the Federal and State statutes of limitation.
- Your EIP rule specifies that any assertion of such defenses renders the initial trade void from the very beginning, and the subsequent use of such emission reductions would be a violation.
- Your EIP rule includes provisions requiring sources to withdraw their banked emissions on a first in, first out accounting basis.
- All records of such older emission reductions, including the records establishing the validity of the generation of the emission reductions, must be retained by the user of emission reductions for a period of at least five years after the use of those emission reductions.
- Your EIP does not cover areas classified as NALD (see section 16.1).

You may also want to limit the use of older emission reductions only to those with superior quality data records. An example would be record keeping similar to the Acid Rain Program's 40 CFR part 75 ***continuous emissions monitoring systems (CEMs)*** monitoring program, which has a centralized database as a repository for information.

Alternatively, you may decide to limit emission reduction life to 5 years or less because of the difficulty of proving violations, compliance or non-compliance after long periods of time (for example, original generators of emission reductions may change ownership, or go out of business). The Federal statute of limitations of 5 years can hinder the fair and equitable enforcement of trading programs for those programs that allow the use of emission reductions generated longer than 5 years prior to their use.

Tracking banked emission reductions

You must also include tracking provisions in your trading EIP for managing your bank, such as the following:

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- A secure system for uniquely identifying each rate-based or mass-based emission reduction in the bank.
- A method to connect each generation and use with the generators' and users' operating permits.
- A system that enables the public to determine what transactions involving banked emission reductions have occurred.

You should track and, as necessary correct for, effects associated with banking, as discussed in section 5.3, "What Features Must I Include to Measure and Track Results?" For multi-source cap and trade and source specific cap EIPs that allow banking, you must perform a true-up evaluation to ensure that, in the aggregate, actual emissions are consistent with your EIP's environmental goals and the assumptions you use when designing your EIP.

Adjustments to banked emission reductions

Emission reductions are not always traded between generator and user on a 1:1 basis. They may need to be adjusted by a multiplication factor when banked. Some reasons for this are:

- To account for the appropriate ratio for interprecursor trades (as discussed in section 6.2(c).
- To address the environmental benefit requirement, or to account for compliance margins (these factors are built into the equations in sections 7.3(b) and 7.5(e)).
- To address differences in uncertainty between generator and user sources (as discussed in section 6.4(c), where one party in the transaction has a more precise emissions quantification technique than the other.

When establishing banking provisions for your EIP, your provisions must ensure these adjustment factors are applied appropriately, in accordance with this guidance.

Minimizing uncertainty associated with an emissions bank

You may conclude from your preliminary demonstration that future emissions associated with your EIP are highly likely to interfere with attaining or maintaining the NAAQS. To receive EPA approval of your EIP with banking and inter-temporal trading, you must include sufficient additional provisions to make it very unlikely that your EIP will interfere with attainment or maintenance of the NAAQS. Inter-temporal effects may be comprehensively addressed by first, analysis and projection of those effects (as described above in the banking discussion), management and minimization of the effects, and finally, tracking and correction for any shortfalls in emission reductions progress caused by such effects. Any additional restrictions, while increasing certainty in your EIP emissions projections, create uncertainty for individual sources who may want to use banked emission reductions for compliance purposes. Some examples of such restrictions include:

- Limiting the withdrawal of some portion of banked emissions in a given year, relative to the overall emissions or emission reductions associated with the program (sometimes called flow control).
- Requiring sources to comply with a relatively short compliance period.

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- Reserving a portion of the emission reductions to provide a continuous safety margin.
- Limiting emission reduction use to reduce the risk of emission spiking on the days when local meteorology is particularly conducive to causing a NAAQS violation. These restrictions limit the amount of emission spiking on the days when emission spiking may have the most adverse effects. It does not control emission spiking on other days. For a particular day you could:
  - -- Prohibit the use of emission reductions.
  - -- Limit the amount of emission reduction use on a particular day to the amount of emission reductions that had already been generated during a given time period (e.g., ozone season).
- Restricting the rate of emission reduction use to the rate that the EIP is generating emission reductions, and tracking the amount of reductions that an EIP is generating within a given time period (e.g., ozone season).
- Requiring emission reduction users to use emission reductions at a rate that does not exceed the rate at which they were generated, thus smoothing out the pattern of use to reduce the likelihood of emission spiking.
- Limiting the amount of time emission reductions may be held in a bank (see discussion under the heading "Lifetime of banked emission reductions" above).

Banking emission reductions solely for new source review purposes

If your EIP includes an emissions bank containing emissions reductions that can only be used for NSR purposes, then some of the EIP requirements can be replaced by NSR requirements. These are:

- NSR geographic restrictions
- NSR offset ratios
- baseline calculations
- FLM notifications
- environmental benefit
- title V permitting
- localized increases of criteria pollutants
- general conformity
- use of old credits
- compliance margins
- alternative emissions limits, and
- seasonal restrictions.

In all other areas the EIP requirements will apply. Some of these areas are:

- localized increases of toxic pollutants
- documentation of emissions reductions
- updating of emissions inventories
- liability and penalty provisions
- public disclosure of information
- protocol approval
- monitoring recordkeeping and reporting

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- inter-precursor trading
- the prohibition on the use of shutdowns for DERs
- inter-credit trading
- banking emission reductions
- uncertainty
- tracking systems and market clearinghouses
- transportation conformity.

Since public comment is required for all emissions trades used to meet NSR requirements, no program evaluation or reconciliation is needed.

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16.16 Provisions for geographic trading across jurisdictional boundaries

General provisions

If your EIP was submitted to comply with the NO_X budget trading program (in response to the NO_X SIP call), then geographic trading is not limited by this guidance. The geographic trading provisions in the NO_X budget trading program provide protection comparable to this guidance. Otherwise, your EIP must include the following specifications for trading between sources across jurisdictional boundaries:

- VOC trading (other than in the western portion of the United States) is limited to trades between sources within 100 km of your non-attainment area boundary.
- NO_X trading (other than in the western portion of the United States) is limited as follows:
  - -- If the source using emission reductions is located in the Ozone Transport Assessment Group (OTAG) domain (i.e., fine grid area) then the geographic limit to trades between sources is 200 km from either the non-attainment area boundary or the entire State - whichever includes more area.
  - -- If the trading sources are located in other parts of the country, trading between such sources is limited to within 200 km of the non-attainment area boundary, unless you demonstrate that a longer distance between such sources is justified using an adequate technical analysis.
- Both VOC and NO_X trading in the western portion of the United States is limited to within the non-attainment areas, unless you make a technical demonstration for a longer distance and your EPA Regional Office approves.
- Trading of other criteria pollutants and their precursors (other than ozone) is limited to the same non-attainment, attainment, or *maintenance area*.

Section 173(c) sets forth the requirements for cross-boundary trading for NSR offsets, and these requirements supersede the requirements of this section for the purpose of using EIP emissions reductions as NSR offsets. Specifically, section 173(c) says that a source must obtain offsets from the same or other sources in the same non-attainment area, but you may allow the source to obtain offsets from a different non-attainment area provided:

- The other area is of equal or higher non-attainment classification than the area in which the source is locating, and
- Emissions from the other area contribute to a violation of the NAAQS in the non-attainment area in which the source is locating.

MOU provisions

These MOUs provide the following assurances on the enforceability of an interstate trade.

- Quality assurance/quality control (QA/QC) requirements in monitoring.
- Access to information on sale and purchase of emission reductions.
- Access to information about which sources have sufficient emission reductions to cover their emissions.

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- Ability to enforce against its own sources if they do not hold sufficient emission reductions to cover emissions.
- Ability to enforce against sources in another State.

For an EIP program that is to be included in your SIP, the EPA will consider exempting the EIP program from the interstate MOU requirement if the above criteria are addressed to the same (or better) degree and extent as in the NO_X cap-and-trade program. That program requires excellent QA/QC of continuous emission monitoring systems (CEMs), a centralized electronic database accessible to all with information specified above, and the ability for all parties to enforce including the concerns specified above.

If your EIP allows emission reductions generated outside your State's boundaries to be used for source compliance purposes in your State, safeguards must exist to ensure the following.

- Your EIP meets the requirements under "General provisions" in this appendix.
- Multiple uses of the same emission reduction do not occur.
- Necessary data and information may be obtained from out-of-State sources.
- States account for emission shifts in attainment planning and RFP/ROP demonstrations.

If you submit an MOU that addresses these concerns to the Agency for approval, that MOU should address the consistency between key EIP elements in each State involved with the EIP. These elements are as follows:

- An identification system for emission reductions traded between States.
- Sharing of required Notices and a compatible emission reduction tracking system.
- Geographic limitations.
- Emission reduction lifetime.
- Record retention requirements.
- The list of acceptable emission reduction generation and use activities.
- Consistent treatment of emission quantification protocols.
- Emission baseline definitions.
- O_3 season definition and any other temporal or geographic requirements.

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16.17 Safeguards for EIPs that allow the use of old emissions reductions

For a variety of valid reasons, you may wish to include old reductions in your trading EIP subject to the given safeguards below.

If you wish to allow the use of "old" emission reductions in your EIP you must:

- C restrict old reductions to those that occur after November 30, 1990.
- C demonstrate that use of these reductions will not interfere with your applicable demonstrations of progress, attainment, or maintenance.
- C include these emission reductions explicitly, as current emissions, in the projection year inventories required in ROP plans or attainment demonstrations that were based on actual inventories that apply for the year in which the EPA approves your EIP (referred to as the "approval year").
- C include these emission reductions explicitly, as future growth, in the projection year inventories required in ROP plans or attainment demonstrations that are based on actual inventories that apply for the year in which the EPA approves your EIP (referred to as the "approval year")
  - -- at the time the inventory was submitted or
  - -- in updates submitted after the original submittal but before the emission reductions are used.
- C ensure that the reductions are otherwise valid according to the fundamental integrity elements defined in section 4.1, and meet the requirements of your EIP.
- C collect and maintain the following information on these old reductions:
  - -- name of the source that generated the reductions,
  - -- the source category that applies to this source,
  - -- the quantity of reductions generated by this source,
  - -- the specific action that created the reductions (e.g., process change, add-on control, or a shutdown of a unit),
  - -- the date that the reductions were generated, and
  - -- other data to determine the eligibility of all reductions.

To meet the inventory requirement above you may show the magnitude of pre-approval-year reductions (in absolute tonnage):

- C was included in the growth factor, or
- C was not included in the growth factor but in addition to anticipated general growth.

In either event, the segregation of pre-approval-year reductions from the projection-year growth factor will probably require a revision to the RFP, ROP, or attainment demonstration if the amount of projected growth is increased because of the explicit addition of pre-approval-year reductions.

The source information listed above is required to prevent the introduction of inaccurate data into the air quality management process, which may ultimately jeopardize the your ability to meet the other requirements of the CAA.

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Special provisions for DERs:

In general, only DERs generated after the date the State adopted the rule are eligible to be used in an OMT EIP. You may allow earlier emission reductions to be traded in an OMT EIP if the trade is a source-specific SIP revision. For trades that are not source-specific SIP revisions, you must:

- Require that earlier DERs be registered by the State prior to use.
- Require all such DERs to be submitted for registration within one year after adopting your EIP.
- You include the emissions from these DERs in all your attainment, maintenance and RFP/ROP plans.

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16.18 Provisions for opt-in sources

You may want to allow additional sources to "opt-in" to your multi-source cap-and-trade EIP. These additional sources could be smaller, located in a different geographic area, or represent another sector than the originally defined affected sources. If you submitted an EIP to comply with the NO_X Budget Trading Rule in response to the NO_X SIP call, the following provisions do not apply. Otherwise, if you allow sources to opt-in to a cap-and-trade EIP, you must meet the following:

- ensure that they will not compromise the original intent of the program to limit emissions in your area.
- ensure that the emissions from the opt-in source are accounted for in the applicable inventory prior to opting in to the cap.
- adjust your applicable inventory and the program cap to reflect the opt-in source's participation in the cap
- allow opt in sources to generate emission reductions by shutdowns only if:
  - -- the opt in source has been in the program for at least 2 years,
  - -- the amount of reductions resulting from the shutdown is limited to 1 year at historical emission levels, and
  - -- the emissions resulting from the shutdown are still contained in the applicable emissions inventory.
- require opt-in sources to buy into the existing pool of allocations, or you must:
  - -- increase the amount of the emissions contained in the cap,
  - -- modify the emissions inventory, RFP/ROP and attainment plans to reflect this change, and
  - -- address shifting demand concerns by including the provisions described in section 7.4(h).

If you allocate allowances to opt-in sources, you will also be including potential emission reductions from outside the predefined group of capped sources. You must demonstrate that allowing sources to opt-in to your cap-and-trade EIP is consistent with the applicable progress, attainment or maintenance plans, including the requirement that source-specific reductions from opt-in sources be surplus. This would also require that the emission budget itself be included in and be consistent with those plans.

If you want to allow shutdowns or curtailments of opt-in sources to generate emission reductions, then you should be aware that this could be a problem because shutdowns and curtailments are part of the ongoing business cycle and are inherently incorporated into inventory projections. Sources anticipating shutdowns or curtailments could potentially opt-in to the emission cap and gain a windfall of allowances. Such a situation would create emission reductions which are not truly surplus if the shutdown or curtailed sources' production is shifted to sources outside the cap.

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