UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
RESEARCH TRIANGLE PARK, NC 27711

SEP 30 2004

OFFICE OF
AIR QUALITY PLANNING
AND STANDARDS

MEMORANDUM

SUBJECT: Airport Emission Reduction Guidance

FROM: Stephen D. Page, Director
Office of Air Quality Planning and Standards

TO: Air Division Directors, Regions I-X

I am pleased to announce an exciting new program to reduce emissions from airport vehicles and infrastructure. Under this program, the Federal Aviation Administration (FAA) will approve funding of projects to voluntarily reduce emissions at airports. In turn, the airport will receive emission reduction credits that can be used for demonstrating conformity under the General Conformity program or as new source review offsets. This memorandum transmits the Airport Emission Reduction Credit Guidance to help implement this program.

Last December, Congress passed Vision 100 – Century of Aviation Reauthorization Act that authorized FAA to approve funding for this program. Under that Act, the FAA can approve funding of voluntary emission reduction projects provided the airport sponsor receives emission reduction credits which it can later use in its General Conformity evaluation or as new source review offsets. In addition, that Act required EPA, in consultation with FAA, to issue guidance on how to ensure that the airport sponsors receive appropriate emission reduction credits for carrying out the projects. The attached guidance fulfills that requirement.

This guidance will be placed on our General Conformity web page at www.epa.gov/ttn/oarpg/genconformity.html, along with links to FAA's companion web page at www.faa.gov/arp/environmental/vale. During the next few months, we expect that FAA and airports will use this guidance to fund fiscal year 2005 projects.

Please share this guidance with your State and local counterparts. If you have further questions, please contact Dave Stonefield of my staff, at (919) 541-5350.

Attachment

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United States
Environmental Protection
Agency

Office of Air and Radiation

September 2004

GUIDANCE ON AIRPORT EMISSION REDUCTION CREDITS FOR EARLY MEASURES THROUGH VOLUNTARY AIRPORT LOW EMISSION PROGRAMS

GUIDANCE ON AIRPORT EMISSION REDUCTION CREDITS FOR EARLY MEASURES THROUGH VOLUNTARY AIRPORT LOW EMISSION PROGRAMS

Prepared by the

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in consultation with the
Federal Aviation Administration

September 2004

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List of Acronyms and Terms

ACS	Airport Credit Statement
AERC	Airport Emission Reduction Credit
AIP	Airport Improvement Program
APU	Aircraft Auxiliary Power Unit
AQ	Air Quality
CAA	Clean Air Act
DOT	Department of Transportation
EDMS	FAA's Emission and Dispersion Modeling System
EIP	Economic Incentive Programs
EPA	Environmental Protection Agency
FAA	Federal Aviation Administration
GAV	Ground Access Vehicles
GSE	Ground Support Equipment
ILEAV	Inherently Low Emission Airport Vehicle pilot program
MOBILE6	EPA Onroad Emission Model
NAAQS	National Ambient Air Quality Standard
NON-ROAD	EPA's Off-road Emission Model
NSR	New Source Review
PFC	Passenger Facility Charge
PGL	Program Guidance Letter
PM	Particulate Matter
PSD	Prevention of Significant Deterioration
SIP	State Implementation Plan
TANKS	EPA model to assess emissions of evaporative hydrocarbons from a single storage tank
VALE	Voluntary Airport Low Emission program
Vision 100	The *Vision 100—Century of Aviation Reauthorization Act, Public Law 108-176*

CHAPTER 1

INTRODUCTION

The *Vision 100—Century of Aviation Reauthorization Act* (the *Vision 100* Act), signed into law in December 2003[1], establishes a program to reduce emissions from airport vehicles, ground support equipment (GSE) and infrastructure at commercial service airports in air quality nonattainment and maintenance areas.[2] The *Vision 100* Act directs the Administrator of the Environmental Protection Agency (EPA), in consultation with the Secretary of the U.S. Department of Transportation (DOT)/Federal Aviation Administration (FAA), to issue guidance on how to ensure that airport sponsors[3] receive appropriate emission reduction credits for carrying out projects described in the *Vision 100* Act.

1.1 Purpose of the guidance

This document provides guidance on emission reduction credits for voluntary early emission reduction programs at airports under the General Conformity and New Source Review (NSR) programs. The airport programs are intended to reduce criteria pollutants and precursors, improve regional air quality, and accelerate the use of new and cleaner technology. [4]

Participation in the program is entirely voluntary for the airport sponsors and the State, district, and local air quality agencies. States have the opportunity to realize the environmental and public information benefits of early reductions in airport emissions in exchange for granting appropriate emission credits to airport sponsors. Airport sponsors have the opportunity to apply for FAA Airport Improvement Program (AIP) grants and other revenues from passenger facility charges (PFCs) to achieve early emission reductions that earn emission credits from State air quality agencies.[5] Airport sponsors may use the emission credits on airport development projects at a later date to satisfy General Conformity and NSR requirements under the Clean Air Act.

In addition to encouraging airport sponsors to implement early emission reduction measures, the EPA and FAA believe that the *Vision 100* Act offers other benefits to airports, State agencies, and the environment:

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[1] Public Law 108-176, Sections 121 (PFC), 151 (apportionment), 158 (airport emission reduction credits), and 159 (AIP).
[2] 49 U.S.C. §§ 40117, 47139, and 47140. Pertains only to criteria pollutants.
[3] "Airport sponsors" are planning agencies, public agencies, or private airport owners/operators that have the legal and financial ability to carry out the requirements of the AIP program. The term is also used in this document to refer to the PFC program, which is restricted to "public agencies."
[4] Criteria pollutants as defined by the CAA (PM, Ozone, NO_2, SO_2, CO, Pb). Added benefits may naturally extend to air toxics.
[5] Includes delegated district, local, and Tribal air quality agencies.

- Facilitates improved dialog between airport sponsors and air quality agencies,
- Expedites the environmental review process for airport projects, and
- Encourages better identification and control of airport emission sources.

This guidance document imposes no binding or enforceable obligations by EPA. Consequently, it does not constitute final agency action by EPA. If airport sponsors and State air quality agencies choose to participate in the program, they should fulfill their commitments on the basis of this guidance, which is consistent with the Clean Air Act. Participating airports would then implement the proposed control measures and participating State air quality agencies would provide appropriate emission reduction credits.

In order for FAA to approve funding for the emission reduction measure under the Vision 100 Act, it must receive assurance from the State air quality agency that the airport sponsor will receive appropriate emission reduction credits. This guidance provides information on the granting of that assurance in a form and manner that could be used by the airport sponsor and the FAA to enable funding for airport emission reduction measures.

This *Vision 100* program is intended to complement existing program eligibility for airport compliance with the Clean Air Act.[6] Emission reductions generated through this program would not change or reduce current airport project requirements to mitigate the emissions effects of airport development or otherwise comply with the Clean Air Act.

1.2 *Vision 100* provisions governing airport emission reduction credits

This EPA document provides guidance on the creation and use of emission reduction credits for the *Vision 100* program, hereafter referred to as the Voluntary Airport Low Emission (VALE) program. With this guidance, no other formal agreements or protocols between the airport sponsors and Federal and State agencies would be needed for the VALE program. As appropriate, States and airport sponsors may use or reference this guidance for other airport emission reduction programs that are not within the funding purview of the VALE program. This guidance is not intended to preclude other voluntary emission reduction programs and associated reduction credits.

As specified in the *Vision 100* Act, approval of AIP grants or PFC funding for this program is contingent upon an assurance to the Secretary of DOT from the State in which the project is located (or from the EPA Administrator where there is a Federal implementation plan) that the low emission measures of the project will receive appropriate emission credits in accordance with this guidance.

The State's assurance to DOT/FAA on airport emission reduction credits is a key component of the voluntary, incentives-based VALE program. AIP and PFC funding may not provide sufficient incentives for early airport emission reductions without

[6] Chapter 5, Section 9(586), "Air and Water Quality Projects," AIP Handbook, FAA Order 5100.38B, Change 1, January 2004."

emission credits. The FAA has stated that the lack of emission credits has been a serious disincentive for airports to reduce emissions because: voluntary reductions simply lowered an airport's emissions baseline; the impact of subsequent airport development projects were judged against the lower baseline; and the airport that had already reduced emissions had fewer options for producing more reductions for new airport development projects. For these reasons, airport sponsors have reportedly deferred emission reductions until needed at the time of development projects.

The *Vision 100* Act directs the Administrator of EPA to issue guidance with the following conditions:

- The provision of credits is consistent with the Clean Air Act;
- Credits generated by the emission reductions are kept by the airport sponsor and may only be used for purposes of any current or future general conformity determination under the Clean Air Act or as offsets under EPA's new source review program for projects on the airport or associated with the airport;
- Credits are calculated and provided to airports on a consistent basis nationwide;
- Credits are provided to airport sponsors in a timely manner;
- A method is established to assure the Secretary of Transportation that, for any specific airport project for which funding is being requested, the appropriate credits will be granted.[7]

In accordance with *Vision 100* and AIP and PFC funding requirements, emission reduction credits for the VALE program may only be obtained and used by airport sponsors. In addition, under FAA requirements, sponsors may not transfer or trade such credits to airport tenants or operators, other airports, or any other entity.

The *Vision 100* Act does not require States to grant emission credits to airports. However, voluntary airport ground emission reduction projects would not be funded by FAA under the *Vision 100* Act where States do not provide appropriate emission credits in accordance with this guidance.[8]

1.3 Eligibility guidance for the program

The FAA is providing program and technical guidance for airports to use in planning their low emission projects and in determining the eligibility of project measures.[9] This guidance includes a Program Guidance Letter (PGL) on airport and project eligibility for the overall program and another PGL for the special AIP pilot program established under the *Vision 100* Act for evaluating the use of cleaner conventional fuel and retrofit technology on aircraft ground support equipment at ten airports.[10]

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[7] 49 U.S.C. 47139(a) (1)-(5)
[8] 49 U.S.C. 47139(b).
[9] VALE Technical Report available from FAA at: www.faa.gov/arp/environmental/vale
[10] *Vision 100*, Section 159, Low-Emission Airport Vehicles and Infrastructure.

Sponsors of commercial service airports in air quality nonattainment and maintenance areas may apply to the FAA for AIP grants or to collect and use PFCs to assist in funding the acquisition or conversion of airport-dedicated ground transportation vehicles and aircraft ground support equipment to low emission technologies. AIP-funded low emission technologies would perform to the best achievable low emission standards established by the EPA and rely exclusively on alternative fuels that are substantially non-petroleum based as defined by the U.S. Department of Energy (DOE), but not excluding hybrid systems or natural gas powered vehicles. [11,12] PFC funding is more flexible and may also be used for technologies using cleaner conventional fuels with emission control technologies certified or verified by EPA.

In addition to low emission vehicles, AIP grants and PFC funding for this program could be used for supporting airport infrastructure, such as refueling or recharging stations and airport terminal gate electrification to provide power and air to parked aircraft. As long as airport safety and security are assured, limited public access to airport refueling or recharging stations could be allowed.

The FAA technical guidance for this program is being developed in consultation with the EPA, DOE, other Federal agencies, the aviation community, industry, and the public. This guidance provides airport sponsors and others with detailed information on various aspects of the program, including:

- Allowable alternative fuels and clean conventional fuels
- Allowable infrastructure to reduce emissions
- Low emission vehicle performance standards
- Emission assessment and cost-effectiveness methodology
- Airport and vehicle use commitments
- Public access to refueling and recharging stations
- Reporting and monitoring requirements

The FAA plans to distribute all of the published guidance documents to airports and State air quality agencies to encourage their participation in the program and to facilitate the planning, application, and implementation phases of the program.

1.4 Description of the contents in this document

The following chapters of this guidance document explain the recommended process and criteria for airports to obtain and use emission reduction credits under the program. Chapter 2 outlines the regulations that support and authorize the creation of early emission reduction programs. Chapter 3 discusses the criteria for early emission

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[11] As defined by DOE, "alternative fuels" are substantially nonpetroleum and yield energy security and environmental benefits. Under the Energy Policy Act of 1993 (EPAct), DOE recognizes the following alternative fuels: methanol, ethanol, and other alcohols; blends of 85% or more of alcohol with gasoline; natural gas and liquid fuels domestically produced from natural gas; liquefied petroleum gas (propane); coal-derived liquid fuels, hydrogen and electricity; biodiesel, and "P-series" fuels (see www.eere.energy.gov/vehiclesandfuels/epact/ epact_fuels.shtml)

[12] 49 U.S.C. §47102(11)

reduction programs and associated credits. Chapter 4 addresses the methods for assessing and quantifying emission reductions. Chapter 5 discusses the process that airports and State air quality agencies should follow when creating an early emission reduction program. This process includes the procedures used by airport sponsors to apply for credits, to quantify and document emission reductions, and to verify the ongoing benefits of their low emission programs. Finally, Chapter 6 explains how airport sponsors could apply their emission reduction credits in the future toward their regulatory requirements and the limits that would apply to such use.

There are two appendices to this report. Appendix A contains Section 158 of the Vision-100 FAA reauthorization bill that mandates this guidance document. Appendix B is a sample credit statement by the State to the airport sponsor awarding numerical credits.

CHAPTER 2

REGULATORY BACKGROUND

The Clean Air Act (CAA)[13] governs air quality control by directing Federal, State, and local agencies to regulate air pollution activities by industries and individuals. The following is a brief discussion of relevant sections of the CAA that relate to the development of emission reduction programs.

2.1 Relationship of the guidance to the Clean Air Act (CAA)

This document provides guidance to State air quality agencies, airports, and the general public on how early control measures to reduce airport emissions may be used to meet general conformity and new source review (NSR) requirements. Participation in the VALE program does not affect or change obligations under CAA provisions or implementing regulations. General conformity requirements can be found in Section 176(c) of the CAA. NSR requirements can be found in sections 160 through 169, 172, and 173 of the CAA.

This guidance document under the *Vision 100* Act addresses both general conformity and NSR requirements for airports. Airport sponsors and State air quality agencies that choose to participate in the program would be subject to the Vision 100 Act's requirements on airport emission reduction credits that are explained in this document. Participating airports are also bound by FAA compliance regulations for the AIP and PFC programs, which are described in FAA Order 5100.38B and related guidance documents.

2.2 Description of the national air quality management process

Section 109 of the CAA requires EPA to set national ambient air quality standards (NAAQS) for pollutants considered to be harmful to human health or the environment. EPA has established standards for six pollutants known as "criteria" pollutants. They include carbon monoxide, nitrogen dioxide, ground level ozone, lead, particulate matter (PM_{10} and $PM_{2.5}$)[14], and sulfur dioxide.

Under the provisions of Section 107 of the CAA, EPA designates areas as attainment, nonattainment, or unclassifiable for the criteria pollutants. The EPA and FAA have prepared an updated list of U.S. commercial service airports that are located in nonattainment or maintenance areas and that are eligible for the VALE program.[15]

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[13] 42 U.S.C. 7401 et seq

[14] PM 10 is defined as "particles with Aerodynamic Diameter Less than or Equal to a Nominal 10 micrometers." PM 2.5 is defined as "particles with Aerodynamic Diameter Less than or Equal to a Nominal 2.5 micrometers."

[15] Available at: www.faa.gov/arp/environmental/vale.

Under Section 110 of the CAA, States are directed to develop plans that provide for the implementation, maintenance and enforcement of the NAAQS within their States. These plans are known as State implementation plans (SIPs). If monitoring data indicate that an area is not meeting the standards, EPA will designate the area as nonattainment.[16] If an area is designated nonattainment, the State must then revise its SIP to show how it will reduce emissions so that it will attain the NAAQS within that area. Once a nonattainment area attains the NAAQS, the area is considered to be a maintenance area. States must revise their SIPs to show how the maintenance areas will maintain compliance with the NAAQS for at least 20 years after the area achieves attainment.

2.3 General Conformity

Section 176(c) of the CAA[17] requires that EPA adopt regulations to ensure that projects sponsored by Federal agencies do not interfere with a State's ability to meet or maintain the NAAQS. In order to fulfill the CAA requirements, EPA promulgated the Transportation Conformity Regulations on November 24, 1993[18] and the General Conformity Regulations on November 30, 1993.[19] The Transportation Conformity Regulations address highway and mass transit transportation plans, programs, and projects funded under title 23 U.S.C. or the Transit Act. The General Conformity Regulations[20] are applicable to all other Federal projects and actions, including FAA actions for airport development.

The General Conformity Regulations prevent Federal agencies from taking actions in nonattainment and maintenance areas that increase emissions in violation of the SIP. Compliance with the General Conformity Regulations can be achieved in several ways, including:

- Documenting that planned emission increases are included in the existing SIP;
- Persuading the State to include the emission increases in the SIP;
- Offsetting emission increases with concurrent emission decreases of the same size; and
- Mitigating the emissions.

All Federal actions are subject to general conformity requirements unless otherwise exempt. Examples of exempt actions include:

- Actions covered by the Transportation Conformity Regulations;
- Actions with total direct and indirect emissions below specified de minimis levels;

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[16] Under Section 107 of the CAA, EPA designates areas as attainment or nonattainment for criteria pollutants.
[17] 42 U.S.C. 7506(c)
[7] 58 FR 62188-62253
[19] 58 FR 63214-63259.
[20] 40 CFR 93. 150-160

- Actions specifically listed in the rule as exempt; or
- Actions included on any list of "presumed to conform" actions published by FAA.[21]

Most of the air quality requirements for airports are associated with the General Conformity Regulation. Under General Conformity, this program can help the FAA to demonstrate that a proposed project is either exempt or conforming with the SIP. Airports are encouraged to take immediate measures to reduce emissions by allowing them to carry these early emission reductions forward on an annual basis (see Chapter 6) as if they were planned as part of a future airport development project.

2.4 New Source Review (NSR)

New and modified stationary sources at airports are sometimes subject to requirements of EPA and State new source review (NSR) programs. Possible examples of airport sources subject to NSR include airport power plants and painting and maintenance facilities.

The basic requirements of the NSR program are established under Parts C and D of Title I of the CAA. Generally administered by State air quality agencies, the NSR program is a means to control air emissions from new or modified stationary sources by requiring pre-construction review and the use of air pollution control technology or other emission reduction strategies. The NSR program is comprised of three permitting programs: 1) minor sources located in attainment, unclassified, or designated nonattainment areas (minor source NSR), 2) major stationary sources located in designated nonattainment areas (nonattainment NSR), and 3) major sources located in attainment or unclassified areas (Prevention of Significant Deterioration or PSD).

The nonattainment NSR permit program only applies to construction projects that will result in potential emissions that exceed certain thresholds. For new sources the potential emissions must exceed the levels that make it a "major" source. The "major" thresholds vary by pollutant and by the degree of nonattainment for the area in which the source is located (based on the sources potential to emit from 100 tons per year down to 10 tons per year). For modifications (a physical change or change in the method of operation) to existing major sources, the modification must result in a "significant" net increase in emissions for the NSR requirements to be triggered. Under this program, the owners or operators for new or modified major stationary sources must install control technology representing the lowest achievable emission rate and offset any emission increases above baseline emission levels. Emission reduction credits from the VALE program can be used as offsets for the emission increases.

The PSD program applies to new or modified major stationary sources located in areas that are meeting the NAAQS for at least one criteria pollutant, including areas designated as maintenance areas. The PSD program also applies to new or modified

[21] 40 CFR 93.153-160.

major sources of non-criteria pollutants regulated under the CAA, except for hazardous air pollutants listed and regulated under section 112 of the CAA. Under the PSD program, a source is considered major if it is in one of the 28 named source categories and emits or has the potential to emit 100 tons per year, or is not in the named categories and emits or has the potential to emit 250 tons per year of a PSD regulated pollutant.

2.5 Economic incentive programs

Section 182 of the CAA allows States to achieve an air quality objective by developing market-based incentive programs to reduce emissions. By providing sources with flexibility in meeting an emission reduction goal, economic incentive programs (EIPs) create opportunities to find the most suitable and cost effective means to fit the circumstances.

An early emission reduction program is one form of an EIP. Economic incentives for early reductions can result in greater long-term emission reductions and in earlier development of innovative technologies. The EPA guidelines for EIPs are published in the document, Improving Air Quality With Economic Incentive Programs.[22] The emission reduction credit guidance in this document for the VALE program is consistent with the EIP guidance.

2.6 FAA Inherently Low Emission Airport Vehicle (ILEAV) pilot program

Based on Section 158 of the *Vision 100* Act (Previously Approved Projects),[23] the ten airport sponsors participating in the FAA ILEAV Program (Section 47136) may apply to the States for and receive emission reduction credits under this guidance for all emission reductions produced by the airports through the ILEAV program, including airport projects previously approved under 49 U.S.C. §47136. Since the ILEAV funding approval has already been granted, airport sponsors of ILEAV projects may be at the project implementation phase and may be eligible to apply for airport emission reduction credits. The ILEAV program is the only previous program that the Vision 100 Act identifies as being eligible for airport emission reduction credits under this program. No other previous airport low emission activities have been identified for emission reduction credits through the VALE program.

[22] Improving Air Quality with Economic Incentive Programs (EPA-452/R-01-001, January 2001
[23] 49 U.S.C. 47139(c).

CHAPTER 3

CRITERIA FOR AIRPORT EMISSION REDUCTION CREDITS (AERCs)

Approved measures for early emission reductions, which can be applied by the airport sponsor to general conformity or NSR permit requirements, cannot interfere with other requirements of the CAA and must be consistent with SIP attainment, maintenance, and progress requirements[24].

To be eligible for airport emission reduction credits (AERCs), the emission reductions would need to meet the quantifiable, surplus, enforceable, and permanent criteria specified in EPA guidance for SIP development. This guidance also follows the Voluntary Mobile Source Emission Reduction Program and the Voluntary Stationary Source Guidance[25, 26] and includes an additional criterion that the airport sponsor's VALE program is adequately supported.

3.1 Quantifiable

The emission reductions from an approved activity are quantifiable if they can be reliably calculated and if the method of calculation can be replicated. The airport sponsor would need to provide the State air quality agency with sufficient data and information to enable the agency to replicate the calculations if it chooses to do so.

Airport sponsors should calculate emission reductions for each year of the project (i.e., the useful life of the purchased low emission equipment or systems). Airport sponsor quantification of emission reductions would need to be completed before the State air quality agency could determine if the measure is eligible and provide written assurance to FAA that AERCs could be granted. The FAA has stated that it must receive this written assurance before it can approve project funding. Airport sponsors may need to update their initial program application emission reduction estimates in the future to reflect changes in funded measures, planned operations, commercially available technology, or Federal or State regulations.

The Emission and Dispersion Modeling System (EDMS) is the FAA-required methodology for airport air quality analysis of aviation sources: aircraft, auxiliary power units, and ground support equipment.[27] For the VALE program, the FAA requires the airport sponsor to calculate the baseline and project emissions from project-related airport

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[24] Specific terms for progress requirements are called reasonable further progress/rate of progress (RFP/ROP).

[25] The Voluntary Measures Policy should be consulted if SIP revisions or SIP credits are sought under this policy. A description of this policy is available at the following web site: http://www.epa.gov/otaq/transp/traqvolm.htm.

[26] Memorandum: Guidance on incorporating Voluntary Mobile Source Emission Reduction Programs into the SIP, October 24, 1997.

[27] FAA Orders 1050.1E, 5050.4B, and Air Quality (Handbook) Procedures for Civilian Airports and Air Force Bases, version 1c, 2004.

sources using EDMS.[28] Airport sponsors may supplement or refine their EDMS analysis of non-aviation sources using other EPA guideline models, such as MOBILE 6 for on-road vehicles (see Chapter 4 for more detailed discussion of the assessment methodology).

3.2 Surplus

Creditable emission reductions would be reductions not otherwise required by Federal, State or local regulations, and for which emission reduction credit has not already been taken. Such reductions could generally be used as long as they are not otherwise relied on to meet other applicable air quality attainment and maintenance requirements.

In evaluating if the AERCs are surplus, the State should compare a project baseline against the proposed project action (see Section 4.1, Baseline development). The net difference between baseline and project scenarios represents the amount of emission reductions that may be surplus and creditable.

Future emission standards for new vehicles would not affect the surplus status of VALE emission reductions and AERCs. The main reason for this is that new standards would not impose a requirement to purchase replacement vehicles. However, the airport sponsor and State air quality agency need to consider factors that could influence the surplus status of projected emission reductions over time. For example, new Federal emission standards that require retrofitting of existing vehicles could decrease the surplus status of related emission reduction measures. Conversely, it is possible that surplus reductions could increase, for example, if a State deleted specific control measures from the SIP.

The surplus criterion is not disadvantageous to an airport sponsor making early voluntary reductions because AERCs ultimately available for use would not be less than if the sponsor waited to implement the emission reduction strategies in the future as part of a project development.

3.3 Federally Enforceable

Credited emission reduction measures must be enforceable at the Federal and State levels.[29] AERC emission reduction measures would generally be considered Federally enforceable if they meet all of the following requirements:

- The measures are independently verifiable.
- A complete schedule to implement and verify approved measures has been adopted by the airport sponsor in accordance with AIP and PFC guidelines.

[28] "Project-related airport sources" are directly related to the sponsor's VALE project and do not include other or all airport emission sources.
[29] See § 110(a)(2)(A) of the CAA (42 U.S.C.§7410(a)(2)(A))

- Violations of AERC requirements are practicably enforceable in accordance with the Clean Air Act, EPA regulations, and FAA AIP and PFC regulations and grant assurances.
- Liability for violations can be identified.
- All required airport emissions-related information is made publicly available.

In addition, AERCs used as offsets for sources subject to NSR regulations must meet the enforceability requirements of NSR regulations.

Verification of airport program implementation relies on the established FAA compliance programs for the AIP and PFC programs. These compliance programs have been in place for many years and have a strong record of effectiveness. Airport sponsors are required to provide the FAA with numerous grant and program assurances that Federal funds are being applied in accordance with the applicable laws, regulations, and program guidance.[30] In addition to the standard assurances and reporting requirements, airport sponsors would also need to meet any special grant assurances that the FAA adds to the VALE program.

If AERC measures are not implemented, the State air quality agency can void related AERCs. The State may choose also to incorporate airport emission reduction measures into the SIP to ensure State and EPA enforceability. An appropriate time to do this, for instance, would be following FAA project funding and the airport sponsor's submission of an updated emissions reduction report to the State for AERCs.[31] The State may include the AERC measures directly in the SIP by adopting and submitting a SIP revision or by issuing a permit for the measure as part of an approved SIP permit program (see section 5.3).

3.4 Permanent

Emission reductions that are credited need to be "permanent" in that they continue to occur at the estimated level throughout the lifetime of the VALE vehicles and infrastructure. The FAA addresses this requirement through grant and program assurances in the AIP and PFC programs. While infrastructure improvements and capital assets are permanent by design, the FAA expects that the VALE program will also include a special condition, similar to the existing FAA ILEAV pilot program, stating that low emission vehicles funded under the AIP and PFC programs would be maintained and used for their useful life at the airport for which they were purchased.[32] In the event that program funds are used to assist parties other than the airport sponsor, the FAA plans to require the airport sponsor to enter into agreements with the purchasing party that requires that the vehicles be maintained and used at the airport for their useful life.

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[30] List of airport assurances are listed on the FAA Airports Office web site at: http://www.faa.gov/arp/financial/aip/assurances.cfm.
[31] The Voluntary Measures Policy, http://www.epa.gov/otaq/transp/traqvolm.htm.
[32] Estimates of vehicle "useful life" are provided in the VALE Technical Report.

Another special condition for the VALE program is the FAA requirement[33] that any vehicles or equipment replaced under the program, whether airport or privately owned, cannot be transferred to another airport or location within the same or any other nonattainment or maintenance area. This requirement protects regional air quality, prevents adverse effects on other sensitive locations, and eliminates the possibility of duplication of VALE funding for the same vehicles or equipment that have been moved to other locations.

In order to assure a permanent stream of emission reductions based on the operational forecast of vehicle and equipment use, the airport sponsor should use and maintain program vehicles and equipment in a consistent manner with their usage estimates. New cleaner vehicles and equipment should be operated as planned even if old systems are still available. The airport sponsor should develop and maintain usage records and periodically update their annual emission reduction estimates if usage or other factors change that could affect estimated emission reductions.

3.5 Adequately supported

The airport sponsor should demonstrate that it has adequate funding, personnel, and other resources to implement and verify the approved low emission measures on schedule.

[33] Voluntary Airport Low Emission Program Technical Report, Chapter 3, FAA, September 2004.

CHAPTER 4

METHODOLOGY FOR CALCULATING AERCs

Emission reductions are usually quantified as a rate-based number (weight per unit of time). The rate-based approach to calculating emission reduction credits results in a permanent, continuous stream of reductions over time. Under the rate-based approach, emission reductions for the VALE program would be computed and tracked for criteria pollutants on an annual basis in pollutant tons per calendar year. AERC used for NSR offsets should also meet all the Clean Air Act requirements for NSR creditable offsets.

In the simplest form, AERCs would be based on the net surplus reductions between existing baseline emissions and project emissions from implementation of proposed measures. This comparison is limited to the project-related low emission vehicles and equipment and would not require the airport sponsor to perform an analysis or inventory of non-project or total airport emissions.

Airport sponsors may incorporate into their project, and receive AERCs for, the emission reductions of vehicle and equipment not funded by either AIP or PFC, if these source reductions are part of the overall VALE project (e.g., conversions of vehicles or equipment with airport revenue or private sector funding that utilize a VALE alternative fueling or recharging station owned by the airport). Accounting for these additional emission reductions should be based on the proportion of reductions that are directly related to the VALE program and can be supported with documentation. The airport sponsor may not claim emission reductions for non-airport dedicated, on-road vehicles that are considered part of metropolitan transportation plans and transportation improvement programs reflected in the transportation conformity process.

4.1 Baseline development

Baseline emissions would be considered to be the lower of the actual or allowable emissions, whichever is less, from the project-related equipment (see discussion of allowable emissions below). Most mobile source baselines should be based on what emissions would have occurred if the voluntary emission reduction measure was not implemented.[34]

The baseline-project comparison for mobile sources will either be "old vs. new" or "new vs. new." In the first type of comparison, when existing vehicles are being converted or retired (old vs. new), airport sponsors should establish the emissions baseline using historical records of vehicle operations for the most recent and representative two-year period available. Developing the correct baseline for an actual piece of equipment that is being replaced would require such information as its hours of operation per month, remaining useful life, and emission factors. In the event that the airport sponsor lacks adequate historical usage records and quantification of the baseline

[34] EPA 452/R-01-001, Section 16.3.4.a(1).

emissions is more difficult, a minimum (i.e., conservative) estimate of baseline usage should be developed using typical operating data for similar equipment at the airport.

In the second type of comparison (new vs. new), the airport sponsor may be proposing to purchase new low emission vehicles because of airport growth. These low emission vehicles are in lieu of purchasing new conventional (gasoline or diesel) fuel vehicles. The appropriate baseline in this case would be the certified or equivalent (e.g., modeled) emission levels of comparable new conventional fuel vehicles.

For purposes of this program, the airport's baseline emission levels should reflect the allowable requirements and emission levels that should exist at the airport. Allowable requirements refer to any restricted levels of airport emissions that are part of the SIP or other existing Federal, State, or local requirements and standards. At present, there are relatively few special State agreements that might affect the determination of allowable airport emissions. In addition, it should be noted that States sometimes do not identify airport sources separately in their SIPs, electing to count airport emission sources in their allocations for mobile, stationary, and construction sources.

Below are three examples to clarify the appropriate baseline comparison:

Example 1 (Old vs. New for Replacement). An airport sponsor is replacing a gasoline vehicle with six remaining years of useful life. In this case, the airport sponsor uses an "old vs. new" comparison for the first six years and a "new vs. new" comparison (see Example 2) thereafter for the estimated useful life of the new vehicle.

Example 2 (New vs. New for Growth). An airport sponsor is adding a new electric vehicle instead of a new conventionally fueled vehicle. The calculated net difference in emissions between the new electric vehicle and the equivalent new conventionally fueled vehicle is determined at the time of purchase (i.e., current year) and is extended for the useful life of the new vehicle.[35, 36]

Example 3 (Old vs. New for Replacement with Future Retrofit Adjustment). An airport sponsor decides to replace diesel on-road maintenance equipment with electric equipment and receives credit for the PM emission reductions. The estimated and credited reductions for the current and future years (after retrofit is required) should be adjusted to equal the difference between the electric equipment and the diesel equipment with the particulate traps.

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[35] Regarding EPA "fleet average" standards for light-duty on-road vehicles, emission factors for new conventional fuel vehicles should based on the average between VALE low emission standards and the highest EPA Tier II Bin level. This applies to light and medium-duty airport vehicles (VALE categories 1 and 2). For EPA "phase-in" of on-road heavy-duty vehicle fleet standards in 2007 to 2010 (VALE vehicle category 3), emission differences should be adjusted to reflect the percentage of phase-in required each year. (See VALE Technical Report for discussion of program vehicle standards and assessments).

[36] Under the NSR program, only emission reductions from replacement of old equipment would be creditable.

4.2 Assessment methodology

The following procedures should be observed when calculating emissions reductions.

4.2.1 FAA Emissions and Dispersion Modeling System (EDMS)

The FAA requires[37,38] airport sponsors to use EDMS to calculate all emissions at the airport related to the VALE program. This includes aviation sources, namely aircraft, APUs, and GSE, as well as ground access vehicles (GAV) and various stationary sources located at the airport. Airports may choose to supplement EDMS calculations for non-aviation sources with approved EPA emission models such as MOBILE 6 for on-road vehicles, NON-ROAD for off-road vehicles, and TANKS for evaluating evaporative emissions from single fuel storage tanks.

The VALE program is being supported by dedicated FAA enhancements to EDMS that are designed to: 1) simplify airport applications for the program; 2) increase the accuracy of emission assessments; and 3) standardize output reports for improved Federal and State agency review.[39]

In developing their projects, airport sponsors should use the most recent version of EDMS and other EPA approved models. This general approach should be followed at logical intervals in the future to take advantage of model improvements. In the event that follow-on projects to an earlier project demand modeling consistency, an airport sponsor may stay with the original version of a model(s) if a clear rationale is provided. In all cases, the same version of EDMS and other models should be used to calculate emissions for both the baseline and project scenarios. Emission reductions and AERCs obtained using one version of the model would not need to be re-calculated each time a new version of a model is released.

4.2.2 Recommended input procedures

Conservative assumptions and consistent inputs are critical to effective analysis. Conservative assumptions, which err on the side of underestimating emission reduction benefits, should be used in developing modeled inputs wherever uncertainties exist. In line with this, activity levels for baseline and future scenarios should be the same,[40] unless there is a supportable forecast that vehicle and equipment fleets or usage rates will change in the future. Areas of potential uncertainty should be identified and described in the airport sponsor's reports whenever possible (e.g., vehicle emission factors).[41]

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[37] FAA Order 1050, Change 4. "Emission and Dispersion Modeling System for Airport Air Quality Analysis, 63 FR 18068 – 18069.

[38] Voluntary Airport Low Emission Program Technical Report, Section 1.7.4, FAA, September 2004

[39] See information on new EDMS Version 4.2 at: www.aee.faa.gov/emissions/EDMS/EDMShome.htm., including description of dedicated V4.2 enhancements for the VALE program.

[40] EPA-452/R-01-001, 4.1 (b) or 16.3.4.

[41] EPA-452/R-01-001, 6.4.

Airport sponsors have the option to perform emission measurements of operating program vehicles and equipment in order to refine their emission reduction estimates.

The emission reduction analysis should carefully consider factors that will change emission reduction estimates year-to-year and whether these reductions continue to be surplus. It is possible that AERCs (i.e., surplus status of emission reductions) may diminish with time depending on the schedule of new Federal emission standards. Operational factors include the number of vehicles, fleet mix, vehicle operations or usage rates, and the useful life of current and new equipment. The modeled emission factors are expected to account for vehicle deterioration rates automatically. Emission reduction estimates may also be affected by organizational factors such as funding and schedule modifications or the financial status of airlines and other non-airport participants.

CHAPTER 5

PROCESS FOR OBTAINING AERCs

5.1 Airport planning for a low emission program

The AERC process begins when an eligible commercial service airport[42] in a designated nonattainment or maintenance area decides to develop a voluntary early low emission program and apply for AIP and/or PFC funding. Airport planning for this low emission program should adhere to FAA VALE program guidance on allowable activities and equipment. The proposed airport program should be tailored to the local air quality problems causing the area's nonattainment or maintenance status.

As early as possible, the airport sponsor should contact Federal and State agencies to inform them of the airport's interest and to obtain needed information. For example, State air quality agencies can verify nonattainment and maintenance classifications for the area. These agencies can also describe how an airport early reduction program may be related to the SIP and whether there are any provisions in the SIP or supplemental agreements that could affect the airport's proposed program. EPA Regional Offices can provide additional help in answering questions on General Conformity and this AERC guidance. FAA Regional Airports Division and Airport District Offices (hereafter referred to as "FAA regional offices") can provide guidance on the use of PFC and AIP funds to support the proposed low emission activities.

There are several important reasons for airport sponsors to take enough time in the early stages of the process to develop a comprehensive and long-range plan for their low emission program. Airport sponsors should plan VALE projects to coincide with the anticipated year(s) of elevated airport emissions resulting from construction and/or operational activities. Other considerations are the limited resources of agencies and the annual cycle of FAA project reviews and funding approvals, which typically involves multi-year acquisitions through AIP and PFC programs. For these reasons, the FAA recommends that interested airport sponsors submit no more than one VALE program application per year.

On the basis of early discussions, the State air quality agency can be expected to work with the airport sponsor to develop a program that is consistent with the SIP and other Federal and State air quality requirements. At any point in the process, the FAA and EPA regional offices are available to discuss the applicability and feasibility of proposed low emission projects and to provide information about other airport emission reduction programs throughout the country that may be useful models.

5.2 Airport program application to the State air quality agency, EPA, and FAA

Based on program guidance and discussions with the appropriate agencies, the airport sponsor begins the formal application process (see Figure 1) by preparing a

[42] Listed in the FAA National Plan of Integrated Airport System (NPIAS)

program proposal for State, EPA, and FAA review. This proposal should not be highly complex or lengthy but should provide all of the needed elements of information, including:

- Description of program measures. This includes specific information on the proposed low emission vehicles, the replaced/displaced conventional fuel vehicles, supporting infrastructure and equipment such as refueling and recharging stations, how the equipment will operate, and the expected deployment and useful life for each unit of equipment.

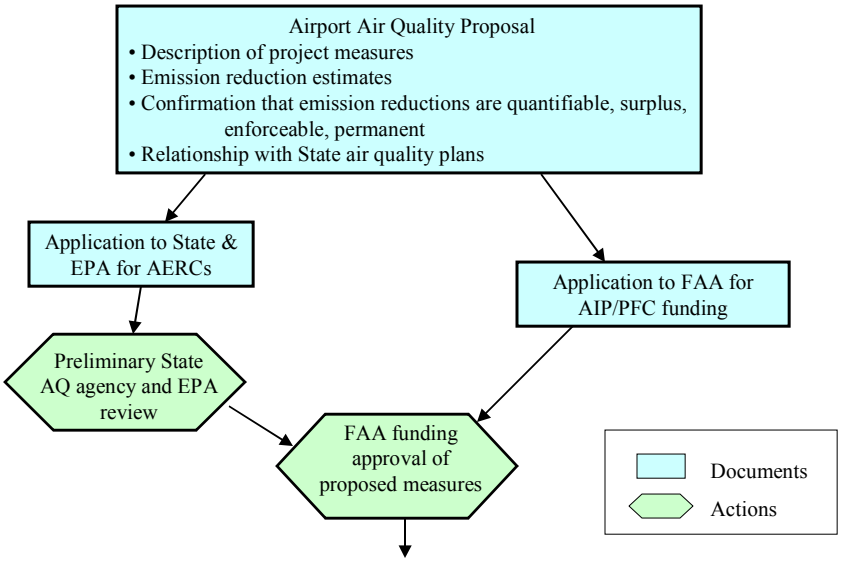
- Emission savings estimates. The airport sponsor should quantify the expected emission reductions from the program (in tons per calendar year per criteria pollutant) and cite the methods and models used to obtain these estimates (see Chapter 4)

- Confirmation that the projected emission savings meet CAA requirements – quantifiable, surplus, enforceable, permanent and adequately supported (see Chapter 3). Confirmation should include the airport sponsor's proposed approach to project tracking and record-keeping over the life of the program.

- Relationship with State air quality plans. As part of the airport sponsor's showing that the early emission reductions program is surplus, the airport sponsor should consult with the State air quality agency to identify what, if any, provisions in the SIP or other state agreements would affect the proposed measures or the airport calculation of emission benefits.

Figure 1

Program Application Phase



The airport sponsor should submit its program proposal concurrently to the State air quality agency, the EPA Regional Office, and the FAA regional offices for review. The State air quality agency and EPA should review the airport sponsor's proposal to ensure that project information and descriptions are understandable, that the calculations are reasonable, and that the projected emission reductions meet the quantifiable, surplus, enforceable, permanent, and adequately supported criteria defined in Chapter 3 of this guidance. The State air quality agency may request further information or clarification from the airport sponsor to complete its review on a timely basis.

State air quality agencies should consider the VALE program to be independent of other State and local programs or agreements, particularly if such activities involve areas besides criteria pollutants (e.g., air toxics, other environmental impact areas). VALE projects and AERCs should be evaluated solely on the basis of the VALE project, independent of other State or local goals, agreements, or issues. Likewise, the VALE program should not preclude or affect other State and local agreements (e.g., the Port of Seattle and Puget Sound Clean Air Agency MOA) if VALE funding is not involved.

The State air quality agency should consider any comments submitted by the EPA on the proposed emission reduction measures and associated AERCs. State and EPA reviews should be concurrent. The EPA should provide its comments within the State comment period to the State air quality agency with copies to the airport sponsor and FAA regional offices.

The Vision 100 Act requires that the credits be provided to the airport sponsors in a "timely manner." Although no specific time period is identified in the law EPA believes that it would be reasonable for a State air quality agency to attempt to respond to the airport sponsor's proposal within 45 calendar days by providing a letter of assurance to the FAA (the recommended letter is provided in Appendix G of FAA Voluntary Airport Low Emission Program Technical Report). Likewise, EPA also believes that subsequent State reviews for AERCs should occur within a similar 45 calendar day period.

As detailed in the VALE Technical Report, the AIP and PFC programs are administered by FAA regional offices and the Airports Financial Assistance Division (APP-500). FAA agency review of airport capital improvement plans begins in the previous fiscal year, leading up to selection and approval of projects for implementation early in the 2nd quarter of the current fiscal year. Because AIP and PFC planning and programming schedules are tight, a delay by the State in its review and letter of AERC assurance to the FAA could jeopardize an airport sponsor's ability to obtain funding for a VALE project in the current fiscal year, representing a project delay for the airport sponsor of at least one year.

As the funding agency, the FAA review of the airport sponsor's proposal would focus on the project cost effectiveness of the proposed emission reduction strategies as well as other requirements of the program. The FAA may request additional information

or clarification from the airport sponsor as needed. The FAA has stated[43] that it must determine that the proposed measures are a sound economic investment for the Federal government based on emission reductions per dollar spent on the program.

The FAA funding approval for a proposed airport low emission program is contingent upon a letter from the State air quality agency (or other governing air quality entity) to the FAA that the airport sponsor will receive emission credits for the proposed program in accordance with the conditions in this guidance (see State letter in **Appendix G** of FAA's Voluntary Airport Low Emission Program Technical Report). In accordance with the *Vision 100* Act, the FAA must receive this letter before AIP or PFC funding can be approved. The letter from the State air quality agency should indicate the State's interest in participating, its preliminary acceptance of the airport proposal, and its assurance that the airport's estimated emission reductions, if implemented as proposed, will receive an equal amount of AERCs. Without a State letter to this effect, the airport sponsor's proposal is ineligible for FAA funding approval.

5.3 Relationship of AERCs to the State Implementation Plan (SIP)

The process of issuing AERCs begins with the State air quality agency review of the airport sponsor's proposed project. If the project is acceptable, the State provides a written assurance to FAA that project emission reductions are eligible for AERCs, provided the project is funded and implemented. If the State air quality agency or EPA has any indication of the airport sponsor's failure to appropriately implement an approved project, the agency should request a meeting with FAA and/or the airport sponsor to correct the situation. Failure to appropriately implement the project before AERCs are used could lead to the State air quality agency revoking the credits.

Both the General Conformity[44] and NSR[45] regulations require that the reductions be enforceable by both the State and EPA. One method to ensure this enforceability is for the State to incorporate airport emission reduction measures into the SIP. If the State chooses to manage this program within the SIP, this action should take place before the AERCs are used in a general conformity evaluation or as a NSR offset. The State would not have to include the measures into the SIP in order to provide the assurance to FAA that the measures are eligible to create AERCs. Regardless of whether VALE emission reduction measures are incorporated into the SIP, they are enforceable through FAA grant assurances and airport program requirements to update and verify emission reduction estimates for their AERC application to the State air quality agency.

If VALE measures are incorporated into the SIP, the State should ensure that the availability of the AERCs for the airport are not affected. The State should identify the relationship of the emission reduction measures (and AERCs) to the State's demonstration of attainment. In most cases, it should be stated in the SIP that VALE surplus emission reductions and associated AERCs are being held for airport use in

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[43] Voluntary Airport Low Emission Program Technical Report, Chapter 10, FAA, September 2004
[44] 40 C.F.R. 93.152 *Emission offset*
[45] 40 C.F.R. 51.165

general conformity evaluations or as NSR offsets and are therefore not available for use as part of the attainment demonstration. In other words, the emission reductions set aside for the airport sponsor to meet general conformity and NSR requirements could not be double-counted by the State as part of its attainment demonstration. The unused AERCs may be available to assist the State in demonstrating compliance with its rate of progress milestones.

VALE emission reduction measures also need to be managed within the context of existing SIP commitments that are made by the airport sponsor and its operators and tenants. Control measures already in the SIP through State and local agreements (e.g., Houston and the South Coast Air Quality Management District) are a factor in determining the surplus status of VALE emission reductions. Established SIP commitments need to be satisfied first before additional (surplus) VALE emission reduction measures could be creditable. It should be noted that airport sponsors are eligible for FAA funding to meet their CAA obligations under local agreements independent of the VALE program.

5.4 FAA approval and program implementation

The implementation phase of the program begins with FAA funding approval. The FAA may approve all, some, or none of the proposed airport low emission measures based on the availability of funding, project cost effectiveness, regional considerations, and other factors in the AIP and PFC decision process. The FAA may also stipulate modifications to proposed measures as needed.

The FAA funding decision is one of several factors that could affect the airport sponsor's proposal between the application phase and the implementation phase. Other factors that could affect the airport sponsor's acquisition and deployment of equipment could be the availability of new or improved technology, changing usage estimates or costs, and the status of participating manufacturers or operators.

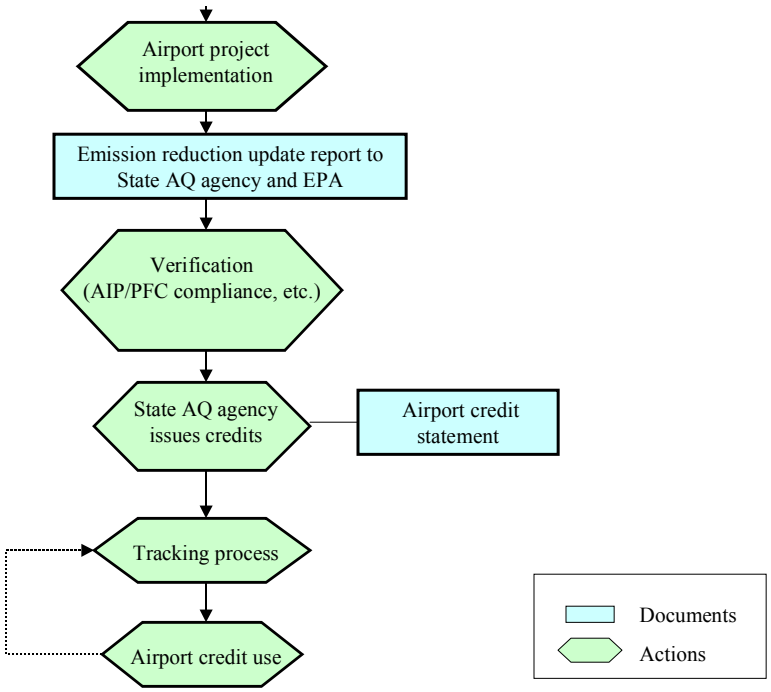
It is therefore important for the airport sponsor to confirm, and as necessary to revise, its program and emission reduction estimates at the implementation phase based on updated information for the approved program. While the airport sponsor may determine when to send its updated report to the State air quality agency for AERCs, the timing of the airport sponsor's submittal depends on the airport sponsor's confidence in the implementation phase about the size, timing, and details of its funded project. The updated report should be presented to the State air quality agency in the same way as the initial application. If the airport sponsor submits the report after it has deployed major parts of its program, the airport sponsor should attempt, as practicable, to compare available information on actual operations with emission reduction estimates (based originally on certification, manufacturer, and/or model data).

It is expected that State program review during the implementation phase will go quickly due to the previous State review during the application phase. Figure 2 shows the steps in the project implementation phase and crediting. Chapter 6 discusses how the

State air quality agencies would issue AERCs to airports, when airports could use them, and how the AERCs would be updated and tracked.

Figure 2

Project Implementation Phase and Crediting



CHAPTER 6

GRANTING AND USING AERCS

As stated in the *Vision 100* Act,[46] AERCs are obtained and held by the airport sponsor and may only be used for any current or future general conformity or NSR permit requirements under the CAA. Consequently, credits that are in excess of what the airport sponsor needs for such purposes could not be traded, sold, or redirected and would simply represent an extra emissions benefit for the area.

6.1 Granting of AERCs by the State air quality agency

When the State air quality agency receives the airport sponsor's updated emission reduction report during the project implementation phase, the State air quality agency should reevaluate the reasonableness of the emission reduction estimates and should issue an appropriate level of AERCs to the airport sponsor in a timely manner. The AERCs should be allocated by the State according to the same annual schedule and amount (tons per year) of emission reductions provided by the airport sponsor's project.

This process for issuing AERCs anticipates that the State air quality agency would provide an airport credit statement (ACS) to the airport sponsor (see **Appendix B** for a sample State credit statement to the airport). The ACS should list eligible credits by calendar year and pollutant.

Depending upon the agency's preference, the document (or certificate) could either be a paper document or electronic. A copy of this document would need to be made available to the public upon request. Multiple certificates could be applied to a single new project, and a single certificate could be applied to multiple projects that are proposed simultaneously.

The AERC allocation process is intended to be simple with no disincentives to airport sponsors (discount ratios, penalties, administrative processing fees charged by air quality agencies, etc.). The basic recommendations for granting AERCs are as follows:

- AERCs should be granted on a one-for-one annualized basis for each criteria pollutant/precursor (i.e., one ton per year of emission reductions for one ton per year of AERC).
- AERCs and underlying airport emission reduction estimates should be carried and rounded to a tenth of a ton per year.
- Annual AERCs for any current or future year could only be used once.

[46] 49 U.S.C. § 47139(a)(2).

- If applicable, AERC's could be used or withdrawn for each year on a "first in, first out" basis.
- The length of AERCs should be based on the useful life of VALE vehicles and equipment unless the airport sponsor agrees in advance to buy replacements that produce equal or lower emissions.[47]

6.2 Life of the AERCs

The value of an emission reduction measure may diminish over time if more stringent government regulations are adopted and these new requirements were not considered in the airport sponsor's emission reduction calculations. Such events would decrease the surplus value of the early emission reductions used to obtain corresponding AERCs.

Generally, AERCs should be available for the useful life[48] of the equipment or up to 20 years. This lifetime provision or "sunset" is consistent with AIP and PFC terms, conditions, and assurances, which remain in full force and effect throughout the useful life of the facilities or equipment acquired for an airport development project over the same 20 year timeframe. With regard to VALE stationary source improvements at the airport with useful life beyond 20 years, stakeholders may agree to extend the life of associated AERCs to as long as 40 years.

6.3 Airport sponsor use of AERCs

The VALE program is one of many ways that airport sponsors can meet their air quality responsibilities. The benefit of early reductions and AERCs made possible through the program will vary from airport to airport.

The *Vision 100* Act requires that AERCs be kept by the airport sponsor and only used for meeting Federal general conformity requirements and NSR permit requirements.[49] Consistent with AIP and PFC funding to individual airports and environmental compliance, the FAA considers each airport as an "independent facility" for purposes of receiving and using AERCs.

AERCs would be assessed, earned, used, and retained on an individual yearly basis over the useful life of a VALE project. The approach to AERCs represents a year-

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[47] Airport sponsors and State air quality agencies may agree to extend AERCs based on Section 6.2 and "Special Conditions" in the VALE Technical Report, including the sponsor's financial responsibility for low emission replacements.

[48] FAA's Voluntary Airport Low Emission Program Technical Report provides information on the useful life of airport equipment.

[49] Airport AERCs are used for general conformity or NSR requirements. AERCs are not part of the EPA Voluntary Mobile Source Emission Reduction Program (VMEP) and thus are not subject to the three percent cap on voluntary measures set forth in the VMEP program. (Guidance on Incorporating Voluntary Mobile Source Reduction Programs in State Implementation Plans (SIPs), Memorandum from Richard D. Wilson Acting Administrator for Air and Radiation to EPA Regional Administrators, October 24, 1997)

to-year credit system and not a multi-year "banking" system where all past emission savings add-up or accumulate. In effect, emission reductions achieved by the airport sponsor for each year translate into an equivalent number of AERCs on an annual basis for as many years as the project lasts. Airport sponsors could only apply AERCs to the year in which the associated emission reductions are projected to occur.

The annualized framework for applying AERCs is reflected in the air quality regulatory process:

- SIP budgets are generally developed on an annual basis making it is more realistic to apply AERCs to the year in which the emissions occur.
- General conformity de minimis thresholds are annualized and expressed similarly in tons per year. This allows a consistent application of AERCs to de minimis levels in the context of project "design measures." (See following section on General Conformity)
- Airport sponsor updates to emission reduction estimates, emission factors, and assessment methodologies can focus on current and future years without concern to past years.
- Implemented airport low emission projects should produce the same or similar emission reductions for many years into the future.

Because AERCs would be acquired and used year-to-year, airport sponsors could not carry or accumulate past year emission reductions and AERCs forward to the current year or future years for use. In effect, these emission reduction benefits are no longer counted as credit toward general conformity and NSR permit requirements and become voluntary benefits to the environment that the State can claim towards meeting the SIP goals.[50]

If AERCs from a control measure are used for a short-term project, unused and future AERCs from the measure are available for the airport sponsor's use in other projects.

The VALE program is not designed for emissions "trading." Thus, this guidance document does not address the separate activity of trading, which is limited under the CAA and would conflict with restrictions in the AIP and PFC programs pertaining to revenue use and reimbursements.

6.3.1 General Conformity

Airport general conformity requirements are the major focus of the VALE program. Under General Conformity, airport sponsors would be allowed to apply AERCs on a 1:1 basis (i.e., one ton per year of AERCs for one ton per year of emission

[50] In the event that the State air quality agencies develop airport emission "budgets" as part of the SIP, the AERCs earned by the airport sponsor may be applied to meeting this budget.

increases) as "design measures"[51] against the CAA annual de minimis levels established for demonstrating conformity. When applied as design measures, the airport sponsor only needs to reduce the total direct and indirect emissions from the project emissions to below the de minimis emission levels. If an airport sponsor's application of AERCs to an airport development project results in project emissions below de minimis levels, no general conformity determination would be required – as consistent with current general conformity rules.

This approach to applying AERCs is intended to provide airport sponsors with greater incentive to employ early emission reductions. Design measures are considered related to future airport projects in time as if the emission reductions occurred as part of the future planning and design for the project. The early emission reductions would also considered related in space or proximity because the airport is considered a single facility for air quality management under this program.

6.3.2 NSR

For purposes of NSR permitting in nonattainment areas, AERCs could be used only as offsets. To be an NSR offsets, reductions are only creditable to the extent they are reduction in actual emissions. Actual emissions are those emissions that were previously emitted into the air. The EPA NSR program includes legally mandated offset ratios based on the severity of nonattainment areas. AERCs could be used for all NSR offset requirements including greater than 1:1 offset ratios. However, other adjustments are not recommended. For example, some States include a discounting feature in their NSR banking programs. Such features reduce the value of early emissions reductions when the AERCs are either generated or used. While the discounting mechanisms allow States to retire credits to increase their progress toward their SIP attainment goals, such conditions might suppress airport interest in early action.

6.4 Updating, tracking and record keeping

The airport sponsor should keep effective equipment records and label equipment that has been purchased through this program. Ongoing verification of equipment, operations, and the surplus nature of credited reductions would be needed, especially after the State issues the ACS and AERCs to the airport sponsor.

The State air quality agency and the airport sponsor would both be responsible for maintaining copies of the ACS as well as tracking changes in Federal and State regulations that may affect the value of allocated AERCs over time. The airport sponsor may have incorporated planned regulatory changes into the future baseline and project calculations. If not, the airport sponsor would need to consider any difference in existing regulations when providing periodic updates to its emission reduction estimates, especially in the period preceding proposed use of AERCs.

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[51] See EPA and FAA *General Conformity Guidance for Airports, Q&A's*, September 25, 2002. Question #38 clarifies the distinctions between "design measures", "mitigation measures", and "offsets."

The airport sponsor would be responsible for updating its underlying emission reduction estimates in two cases: 1) when changes warrant corrections to the estimates; and 2) when the airport sponsor declares that it intends to use its AERCs. In both cases, the airport sponsor should provide its updated report, and the effects on the ACS and number of AERCs, to the State air quality agency, the EPA, and the FAA. Updated calculations would be only required for current and future project years.

In addition, the airport sponsor should keep track of operational and facility changes over time that could affect the emission reduction estimates. Any new information that may change the amount of allocated AERCs (higher or lower) would need to be presented to the State air quality agency prior to AERC use in order to verify the continued validity of the AERCs and the emission reduction estimates upon which they are based.

State air quality agencies and airport sponsors would not have to notify the public when AERCs are granted through the ACS. However, when an airport sponsor decides to use its AERCs to meet Federal general conformity requirements or NSR permit requirements, the airport sponsor would need to notify the public (e.g. notice in a local paper) and in writing to the State air quality agency and the EPA Regional Office that they are intending to do so. Following the airport use of AERCs, the State air quality agency would need to revise the airport's AERC balance accordingly and send the airport sponsor a new credit statement on the airport's remaining AERCs.

APPENDIX A

Section 158. Emission Credits for Air Quality Projects

H.R.2115

One Hundred Eighth Congress
of the
United States of America

AT THE FIRST SESSION

Begun and held at the City of Washington on Tuesday,
the seventh day of January, two thousand and three

An Act

To amend title 49, United States Code, to reauthorize programs for the Federal Aviation Administration, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE; TABLE OF CONTENTS.

(a) SHORT TITLE- This Act may be cited as the `*Vision 100*--Century of Aviation Reauthorization Act'.

(b) TABLE OF CONTENTS- The table of contents for this Act is as follows:

Sec. 1. Short title; table of contents.
Sec. 2. Amendments to title 49, United States Code.
Sec. 3. Applicability.
Sec. 4. Findings.

TITLE I--AIRPORT AND AIRWAY IMPROVEMENTS

Subtitle A--Funding of FAA Programs

Sec. 101. Airport planning and development and noise compatibility planning and programs.
Sec. 102. Air navigation facilities and equipment.
Sec. 103. Federal Aviation Administration operations.
Sec. 104. Funding for aviation programs.
Sec. 105. Agreements for operation of airport facilities.
Sec. 106. Insurance.

Subtitle B--Passenger Facility Fees

Sec. 121. Low-emission airport vehicles and ground support equipment.
Sec. 122. Use of fees to pay debt service.
Sec. 123. Streamlining of the passenger facility fee program.
Sec. 124. Financial management of passenger facility fees.

Subtitle C--AIP Modifications

Sec. 141. Airfield pavement.
Sec. 142. Replacement of baggage conveyor systems.
Sec. 143. Authority to use certain funds for airport security programs and activities.

Sec. 144. Grant assurances.
Sec. 145. Clarification of allowable project costs.
Sec. 146. Apportionments to primary airports.
Sec. 147. Cargo airports.
Sec. 148. Considerations in making discretionary grants.
Sec. 149. Flexible funding for nonprimary airport apportionments.
Sec. 150. Use of apportioned amounts.
Sec. 151. Increase in apportionment for, and flexibility of, noise compatibility planning programs.
Sec. 152. Pilot program for purchase of airport development rights.
Sec. 153. Military airport program.
Sec. 154. Airport safety data collection.
Sec. 155. Airport privatization pilot program.
Sec. 156. Innovative financing techniques.
Sec. 157. Airport security program.
Sec. 158. Emission credits for air quality projects.
Sec. 159. Low-emission airport vehicles and infrastructure.
Sec. 160. Compatible land use planning and projects by State and local governments.
Sec. 161. Temporary increase in Government share of certain AIP project costs.
Sec. 162. Share of airport project costs.
Sec. 163. Federal share for private ownership of airports.
Sec. 164. Disposition of land acquired for noise compatibility purposes.
Sec. 165. Hangar construction grant assurance.
Sec. 166. Terminal development costs.

SEC. 158. EMISSION CREDITS FOR AIR QUALITY PROJECTS.

(a) EMISSIONS CREDIT- Subchapter I of chapter 471 is further amended by adding at the end the following:

"§ 47139. Emission credits for air quality projects

"(a) IN GENERAL- The Administrator of the Environmental Protection Agency, in consultation with the Secretary of Transportation, shall issue guidance on how to ensure that airport sponsors receive appropriate emission reduction credits for carrying out projects described in sections 40117(a)(3)(G), 47102(3)(F), 47102(3)(K), and 47102(3)(L). Such guidance shall include, at a minimum, the following conditions:

"(1) The provision of credits is consistent with the Clean Air Act (42 U.S.C. 7402 et seq.).

"(2) Credits generated by the emissions reductions are kept by the airport sponsor and may only be used for purposes of any current or future general conformity determination under the Clean Air Act or as offsets under the Environmental Protection Agency's new source review program for projects on the airport or associated with the airport.

"(3) Credits are calculated and provided to airports on a consistent basis nationwide.

"(4) Credits are provided to airport sponsors in a timely manner.

"(5) The establishment of a method to assure the Secretary that, for any specific airport project for which funding is being requested, the appropriate credits will be granted.

"(b) ASSURANCE OF RECEIPT OF CREDITS- As a condition for making a grant for a project described in section 47102(3)(F), 47102(3)(K), 47102(3)(L), or 47140 or as a condition for granting approval to collect or use a passenger facility fee for a project described in section 40117(a)(3)(G), 47103(3)(F), 47102(3)(K), 47102(3)(L), or 47140, the Secretary must receive assurance from the State in which the project is located, or from the Administrator of the Environmental Protection Agency where there is a Federal implementation plan, that the airport sponsor will receive appropriate emission credits in accordance with the conditions of this section.

"(c) PREVIOUSLY APPROVED PROJECTS- The Administrator of the Environmental Protection Agency, in consultation with the Secretary, shall determine how to provide appropriate emissions credits to airport projects previously approved under section 47136 consistent with the guidance and conditions specified in subsection (a).

"(d) STATE AUTHORITY UNDER CAA- Nothing in this section shall be construed as overriding existing State law or regulation pursuant to section 116 of the Clean Air Act (42 U.S.C. 7416).".

(b) CONFORMING AMENDMENT- The analysis for chapter 471 is further amended by inserting after the item relating to section 47138 the following:

"47139. Emission credits for air quality projects.".

APPENDIX B
Sample State Air Quality Agency Credit Statement (ACS) to the Airport Sponsor

[Date]

Airport Manager (Name & Title)
Airport Name
Address
City, ST, Zip

To _____ [Airport Manager Name]

Based on the updated report submitted by _____ [airport sponsor's name] on _____ [date] for the VALE program, the _____ [State air quality agency] has determined that the airport sponsor's estimates for early emissions reductions are reasonable and accurate. In accordance with these projections, the following airport emission reduction credits (AERCs) are hereby granted to the airport sponsor:

Annual AERC Allocation (tons/year)							
	Calendar Year	NOx	VOCs	CO	PM_{10}	SO_2	Other
1	2006						
2	2007						
3	2008						
4	2009						
5	2010						
6	2011						
7	2012						
8	2013						
9	2014						
10	2015						
11	2016						
12	2017						
13	2018						
14	2019						
15	2020						
16	2021						
17	2022						
18	2023						
19	2024						
20	2025						

Based on information provided by _____ [airport sponsor name], we have determined that all [nearly all, a portion, etc.] of the estimated emission reductions meet

AERC requirements in accordance with U.S. Environmental Protection Agency (EPA) *"Guidance on Airport Emission Reduction Credits for Early Measures through Voluntary Airport Low Emission Programs."* Annual AERCs have been allocated on a 1:1 basis with annual surplus emission reductions (tons/year).

[optional paragraph if State air quality agency issues fewer AERCs than requested) The reason for fewer AERCs allocated than requested for the year(s) of _____ or for the pollutant(s) _____ is as follows:

The airport sponsor may use the AERCs granted in this Statement to meet future general conformity evaluation and NSR permit requirements for the year in which the AERCs are generated and listed above. In accordance with EPA guidance, the airport sponsor should notify the State air quality agency, the EPA Regional Office, and the public of its intention to use AERCs. At time of use, the airport sponsor must demonstrate to the State air quality agency that AERC-based emission reductions continue to represent real and surplus reductions.

If you have any questions, please contact _____ [contact name at State air quality agency] at _____ [phone] or _____ [email address].

Sincerely,

Director
State Air Quality Agency

cc: EPA Regional Office, FAA regional offices