

**Federal Aviation Administration  
Inherently Low-Emissions Airport Vehicle Pilot Program**

**General Guidance for Grant Proposal Development**

**ACTION:**

Request for airport applications for pilot program grants to demonstrate the effectiveness of low emission vehicles for improving air quality around airports.

**SUMMARY:**

The Wendell H. Ford Aviation Investment and Reform Act for the 21<sup>st</sup> Century (AIR-21) of April 5, 2000 (P. L. 106-181, section 133) calls upon the Secretary of Transportation to carry out the Inherently Low-Emission Airport Vehicle (ILEAV) Pilot Program as part of the Airport Improvement Program. Accordingly, the Federal Aviation Administration (FAA) Office of Airports is seeking proposals for ILEAV airport grants to support the acquisition of low-emission vehicles and fuel service facilities. Grants of up to \$2 million each will be awarded to ten public-use airports to demonstrate the emission reduction benefits of using airport vehicles and equipment powered by alternative fuels.

**DATE:**

Applications for ILEAV Pilot Project grants for FY 2001 must be postmarked to the appropriate airports field office by Friday, February 9, 2001.

**MAILING ADDRESS:**

Airport applications should be mailed to the FAA Regional Office or Airport District Office (ADO) noted on the program announcement letter.

**FOR FURTHER INFORMATION:**

Regional contacts are the FAA Regional Airport Division Manager or the ADO Manager. The Headquarter contact is Jake Plante (202/493-4875), [jake.plante@faa.gov](mailto:jake.plante@faa.gov) in the Airports Office, Community and Environmental Needs Division, APP-600. Program material will be posted on the following FAA Airports web site under "Emissions": [www.faa.gov/airports\\_airtraffic/airports/environmental/ileav/](http://www.faa.gov/airports_airtraffic/airports/environmental/ileav/).

**AIP PARAMETERS:**

Provisions of the ILEAV Pilot Program have been established in accordance with the Airport Improvement Program (AIP). Consistent with the multi-year authorization of the AIP under AIR-21, ILEAV grants may be awarded over an extended period through FY 2003. However, the goal is to issue as many of the ten ILEAV grants as possible in FY 2001. The number of grants awarded initially will be based on the quality and diversity of the proposals as determined by technical and program reviews.

**Definition and role of airport sponsors.** Under the AIP (Section 47103, Sub. VII, Part B and FAA Order 5100.38), the airport sponsor is defined as a public agency

owning or operating a public-use airport, a private owner of a designated reliever airport, or a public-use airport that enplanes more than 2,500 passengers and has scheduled service. As such, the airport sponsor shall be the ILEAV grant applicant and recipient of pilot program awards.

**Definition of covered airports.** Eligible public-use airports include publicly-owned commercial service and general aviation airports, privately-owned reliever airports, or airports that enplane more than 2,500 passengers annually and have scheduled service.

**Airport cost share.** The airport sponsor shall provide at least a 50 percent share of proposed ILEAV project costs to match the 50 percent federal grant contribution. Eligible sources for airport matching funds are defined under current AIP guidelines (see FAA Order 5100.38A). These sources include revenues from landing fees, leases, and concessions. The airport local match may include or be augmented by direct financial and in-kind contributions from vehicle manufacturers, fuel suppliers, utilities, operators, airlines, state and local governments, and other participating organizations.

Demonstrating compatibility and integration with other low emission vehicle systems serving the airport or region is beneficial. However, the airport's financial plan for the proposed project must be completely independent of other existing or contemplated federal funding to the airport and region for low emission vehicle activity.

**Ownership assurances.** The benefits of the program to alleviate pollution problems at the airport and surrounding area are intended to be permanent. Therefore, the airport must assure the FAA that vehicles and other assets acquired or contracted through the program will remain in use at the airport for their useful life.

In order to protect the FAA investments in project vehicles and infrastructure, a special condition will be inserted in the grant agreement stipulating that the vehicles and equipment acquired under this provision will be operated and retained at the airport for their useful life. The airport should address how it will protect against the removal or reassignment of vehicles and equipment due to business decisions, non-renewal of airport leases, termination of airport access agreements, etc.

**Emission credits.** The FAA lacks the authority to issue "credits" for the emission benefits earned through the pilot program. In principal, the FAA supports the view that ILEAV measures taken by airports to reduce emissions should be recognized by States and the U.S. Environmental Protection Agency (EPA) in future actions affecting state implementation plans (SIPs) and general conformity determinations. Airport sponsors that are interested in project credits for trading or banking are advised to develop a local plan in consultation with the state and/or local air quality office and the appropriate EPA regional office.

## **PROGRAM ELIGIBILITY:**

The following section provides information on program eligibility, including the location of airports within designated air quality regions, project activity areas, alternative fuel types, and vehicle use.

**Air quality nonattainment status of covered airports.** Airports are eligible for ILEAV grant assistance if they are:

1. A public-use airport that serves civil aviation and is listed in the National Plan of Integrated Airport Systems (NPIAS) (ref. Order 5100.38A)
2. Located within an air quality nonattainment area (NA) designated by the EPA in accordance with National Ambient Air Quality Standards (NAAQS). The airport is eligible if it is in nonattainment for one or more of the six criteria pollutants, of which the most relevant to airport emissions are ozone (NO<sub>x</sub> and VOC precursors), carbon monoxide (CO), and particulates (PM-10). Nonattainment areas for ozone include those areas re-designated by EPA to meet the 1-hour ozone standard.

Airports must offer verification of their NA status by criteria pollutant at the time their proposal is submitted. Subsequent changes in NA status prior to award will be reviewed. Verification may include a printout from the EPA web site or a letter from the state environmental department or EPA regional office.

There will be no regional distinctions considered among airports for the severity of nonattainment status or for demographics such as population.

If there are an insufficient number of applications from airports in NAs, the FAA will consider applications from other public-use airports, including those located in EPA-designated air quality maintenance areas.

**Project activity areas.** There are four areas of activity that are eligible for funding:

1. Acquisition of inherently low emission vehicles (ILEVs) that are located or primarily used at the airport. The Federal matching contribution is limited to the differential or incremental capital costs of purchasing ILEVs to replace vehicles used for the same purpose and powered by conventional fuels (e.g., gasoline, diesel).

Vehicles exceeding ILEV emission standards (e.g., ULEV, ZEV) are eligible, provided fuel system vehicles control evaporative emissions through dedicated gaseous-fuel systems.

Complete conversions or retrofits of conventionally-fueled vehicles are permitted provided the airport can demonstrate that vehicle conversions: 1) meet ILEV guidelines (complies with EPA Memorandum 1-A to prevent modifications that could degrade emissions performance, including the control of evaporative emissions); 2) provide equal or greater benefit than the purchase of an equivalent new vehicle(s)

on a life-cycle cost basis; and 3) comply with recognized safety and EPA labeling standards (see “Best practices”).

2. Infrastructure to support on-road vehicles under EPA ILEV certification standards (Title 40). Construction or modification of infrastructure (e.g., refueling or recharging stations) to support the delivery of fuel, maintenance, and other essential low emission vehicle services.
3. Infrastructure to support airport ground support equipment (GSE) and other non-road vehicles that meet standards set forth in the statute. As above, this covers the construction or modification of infrastructure (e.g., refueling or recharging stations) to support the delivery of fuel, maintenance, and other essential low emission vehicle services.
4. Acquisition of technological capital equipment. This area covers auxiliary equipment that is essential to the delivery of fuel, power, and services for project low emission vehicles. For example, activities may include interfaces or facilities at terminals to provide vehicle refueling or recharging. In addition, stationary fuel cells are eligible if they are fully dedicated to the recharging of low emission vehicles.

In planning and carrying out these activities, airport sponsors are encouraged to enlist the support of eligible advanced transportation technology consortiums (ref. Title 49, section 5506). Technical assistance provided to airports by a consortium(s) cannot exceed 10 percent of the amounts made available for expenditure at the airport in a fiscal year.

**Alternative fuel types.** For purposes of this solicitation, project low emission vehicles must operate exclusively on one or more of the following six alternative fuels: compressed natural gas (CNG), liquefied natural gas (LNG), liquefied petroleum gas (LPG), electricity, hydrogen, or methanol 85 (a blend of 85 percent methanol). Fuel sources for hybrid, bi-fuel, and dual-fuel engines and fuel cells are limited to these alternative fuels. Alternative fuels not specifically mentioned in the legislation, such as ethanol, are excluded from the program, as are hybrids and other vehicles designed to use any amount of conventional fuel.

**Vehicle use.** Vehicles must be located or primarily used at airports to be eligible. Eligible vehicles must be employed solely for operations in the immediate vicinity of the airport and be dedicated to the delivery of airport services.

Eligible on-road vehicle uses include passenger shuttles (e.g., parking lots, car rental areas, inter-terminal, on-airport hotels) and service vehicles (e.g., fuel and maintenance trucks, deicers, security fleets).

Eligible GSE and other non-road vehicles encompass aircraft pushback tractors, baggage tugs, belt loaders, cargo loaders, carts, forklifts, mobile air conditioning and

power units, and various kinds of aircraft service trucks (fuel, lavatory, water, maintenance, etc.).

Non-eligible vehicle uses include taxis, limousines, off-airport hotel and super shuttles, regional bus service, rental cars, private cars, and non-fueled vehicles (e.g., bicycles). Although ineligible for the pilot program, these low-emission vehicles may be allowed access to ILEAV refueling or recharging stations installed and operated at the airport, provided that airport security is maintained. Calculating the emission benefits from regional vehicle access to airport project facilities is discussed later in this guidance.

**Best practices.** The airport sponsor, along with their project partners, agree to comply with all national safety standards pertaining to alternative fuel use, as appropriate, for the project activity areas undertaken as part of this program. Furthermore, these entities are also encouraged to comply with prevailing vehicle and facilities guidelines for their project activities involving alternative fuels.

## **PROPOSAL EVALUATION:**

Program evaluation is an important aspect of the grant program. This activity begins with the application process and the technical information collected and developed by airport sponsors to estimate the potential emission benefits and commercial viability of the project.

Based on technical and program evaluations, each proposal will receive a final three-tier award ranking of 'A', 'B,' or 'C'. Airport proposals that receive an "A" ranking will be awarded grants. Airport proposals that receive a "B" ranking are technically strong but were not selected for awards due to the deferral of awards, restricted funding, or lack of diversity. Proposals that receive a "C" ranking have areas for technical improvement.

The technical evaluation of grant proposals will be conducted using a numerical 100-point rating system. The allocation of points in the technical evaluation will be made according to the seven criteria described below.

### **1. Emission reduction benefits (50 points).**

The most important component of the technical evaluation is the project's contribution to cleaner air. These benefits will be measured by emission reductions in total dollars per ton and annual dollars per ton. The methodology for calculating emission benefits and costs for the pilot program is presented in a separate attachment: "Methodology for Calculation of Emissions Benefits and Project Costs."

The analysis begins with separate emission assessments for non-road and on-road vehicles. The assessment of non-road vehicles (GSE) should be conducted with the EPA GSEModel, which provides GSE emission and cost factors for conventional and low emission vehicles, or by using the alternative worksheets. The GSEModel is designed for applications like this involving cost comparisons between conventional and low emission fleets. The FAA has developed an equivalent tool and worksheet

methodology to assess on-road vehicles for this program. The on-road emission factors are based on EPA engine certification standards for conventionally fueled vehicles and government and original equipment manufacturer (OEM) data for ILEVs.

**Distribution and GSEModel update.** FAA will distribute the technical documentation, on-road methodology, and worksheets at: [www.faa.gov/airports\\_airtraffic/airports/environmental/ileav/](http://www.faa.gov/airports_airtraffic/airports/environmental/ileav/).

This guidance is expected to be available in mid-November. The EPA is updating the GSEModel for this program. This update, with revised emission factors, will be called the “GSEModel Federal Version” and will be available by December 1<sup>st</sup> at the following web site: [www.epa.gov/otaq/traqnew](http://www.epa.gov/otaq/traqnew). For reference purposes, the current version of the GSEModel is located at: [www.epa.gov/orcdizux/transp/vmweb/vmairgnd.htm](http://www.epa.gov/orcdizux/transp/vmweb/vmairgnd.htm). The EPA contacts are Matt Payne at (734) 214-4576 and Michael Ball at (734) 214-4897. The pending release of these materials should not prevent airport sponsors from beginning their proposal development, including identifying candidate vehicles for replacement, collecting baseline data, and gathering specifications for low-emission vehicles and support systems.

**Non-applicability of ILEAV methodology for other FAA actions.** Use of the recommended methodology is strictly confined to this pilot program and does not modify or change current FAA requirements or recommendations on how to perform airport air quality analysis under the National Environmental Policy Act (NEPA), the Clean Air Act (CAA), or related agency guidance and initiatives.

**Baseline and cost information.** Data requirements for the project analysis include an inventory of baseline and alternative vehicle fleets, vehicle life estimates, and differential costs for acquisition, operations, and maintenance. Cost estimates should include replacement parts (e.g., battery pack replacement) and possible hazardous waste disposal. Baseline estimates must be developed with up-to-date vehicle and usage data, preferably for the year 2000. The baseline should incorporate savings already obtained from other air quality and low emission vehicle initiatives at the airport. Major assumptions and supplemental data used in developing baseline and cost estimates must be clearly described in the proposal.

#### ☐ Airport analysis

Quantitative analysis of airport emissions should be conducted for each criteria pollutant. Emission reductions of criteria pollutants responsible for the area’s nonattainment status will be reviewed separately in the technical evaluation of emission benefits. However, the evaluation will also recognize reductions in other criteria pollutants and the total overall emission benefits at the airport.

- ✓ **Level one.** Airport emission reductions due to the project for the criteria pollutant(s) associated with nonattainment status.

- ✓ **Level two.** Airport emission reductions due to the project for the remaining criteria pollutants (i.e., pollutants not associated with nonattainment status).

**Regional analysis (optional)**

Assuming an infrastructure project component and public access to this refueling or recharging station(s), the airport sponsor may submit a general estimate of potential off-airport or regional emission benefits for criteria pollutants. The airport sponsor must clearly describe how the pilot project will lead to new or greater regional low emission vehicle use and how the project will have a direct and measurable effect on additional net emission reductions for the region.

**Supplemental analysis (optional)**

Proposals may include additional information or analysis to supplement estimates of emission savings. This information may reflect more advanced science or refinements of data to better approximate actual or local conditions.

**2. Partnerships and local commitment (15 points).**

Airport sponsors are encouraged to form public and private partnerships with vehicle manufacturers, fuel suppliers, station owners and operators, utilities, airlines, state and local governments, and other organizations. Additional financial and in-kind support from these partnerships can augment the airport's investments in the project. In general, the larger the partnerships the better. Letters of support from partners must be included in the proposal to confirm the nature and extent of their participation and financial commitments.

These partnerships demonstrate the interest and support of the surrounding community and local governments to help the airport contribute to regional air quality goals. They also expand opportunities for public education and distribution of project information.

Sources and amounts of cost share must be clearly specified in the grant application. This will facilitate the review of proposals and provide for more accurate evaluation. Direct monetary contributions, other financial elements, and in-kind sources should be listed separately. In-kind contributions are defined as property or services provided by third parties to the airport for the benefit of the program. Any airport obligations associated with in-kind contributions should be noted.

**3. Management and operating plan (10 points).**

This category is an important factor and indicator of project success. Past experience of airport sponsors in developing and utilizing low emission vehicle systems at their airport will be considered. In addition, the experience of partners in the project will be reviewed for their successful track records in providing engineering, transportation, information, and scientific support needed for the effective development and operation of these systems. The use of an eligible

consortium under the Department of Transportation Advanced Vehicle Program in the region of the airport will be considered.

In addition to past experience, the quality of the proposed management system will be evaluated. This evaluation includes a timely schedule for putting all vehicles and infrastructure into service (ref. Order 5100.38A). Description of the management plan should include the organizational resources, budget, and technical processes that will be used to design, develop, operate, maintain, and evaluate the project. The important area of training for airport personnel working with these new systems should be addressed, as should vehicle labeling to meet EPA guidelines and raise public awareness. Also, the proposal should include the names and qualifications of key personnel and their expected area(s) of responsibility.

**4. Economic sustainability (10 points).**

An important measure of success is the ability of the project to be self-sustaining without further federal assistance. Sustainability will be evaluated on the basis of quantitative and qualitative information. Results from the worksheet calculations will be taken into account. As part of this, vehicles with higher capital costs could be better long-term investments due to their lower annual operating and maintenance costs. Overall, the airport sponsor should explain how their project will remain a successful commercial enterprise in the future beyond the obligation of ILEAV funds, how initial investments in the project will be maintained, and how the project may be expanded if successful.

**5. Evaluation plan and system monitoring (5 points).**

Each application or proposal should include a description of the airport sponsor's plan for monitoring, evaluating, and analyzing vehicle system performance. Random or periodic spot checks and testing of vehicles should be performed using acceptable testing methodologies. At a minimum, a representative sampling of vehicle data must be reported at the beginning of the project (establishing the baseline) and at project reporting points.

The airport sponsor should also address how this (and other) project information will be provided to the FAA to increase its understanding of the advantages and drawbacks of instituting low emission vehicle programs. In addition, this information should provide an effective means by which the FAA can inform Congress, other agencies, and the public about the overall results of the pilot program.

**6. Transferability (5 points).**

An important measure of strategic value for the project is whether its processes and design can be extended to other airports and localities. Low emission technology, methodology, and management systems employed in the project should be replicable and readily transferable. The project should show how its effective use of new technology, management controls, etc. could reduce the uncertainties and risks for other airports.



## **7. Innovativeness (5 points).**

The project's use of advanced technology or special applications of existing technology will be considered. Other areas of innovation may include operational elements of the project or information initiatives. Because of the required emphasis on deployment, basic research and development activities will not be considered.

### **REVIEW PROCESS:**

Grant proposals submitted to FAA Airport Regional or District Offices will be screened initially at this level to determine if the proposals are complete. Screened proposals will then be forwarded to FAA Headquarters for technical and program reviews and project selection. FAA personnel will coordinate the technical review, assisted by other Federal agency representatives with knowledge of low emission vehicles and alternative fuels. The technical evaluation will be based on the ability of proposed projects to satisfy the statutory requirements and cost-effectiveness procedures outlined in this guidance. There may be periods during the course of the screening and technical reviews when FAA may ask airport sponsors for additional information, clarification, or refinement of their proposed activities.

### **ANNOUNCEMENT OF PROJECT AWARDS:**

The project review and selection process is expected to be completed in spring 2001. The agency will then move forward with necessary arrangements for grant agreements. Selections will be announced by Headquarters and officially communicated to the airport sponsor through the Airport Regional Office or ADO.

### **REPORTING:**

Airport project reports are required annually. These reports should be submitted to FAA Headquarters through the appropriate FAA Regional Office and ADO. The reports should contain quantitative and qualitative assessments of emission savings and other performance measures. Discussion about project effectiveness should include areas of management, operations and maintenance, and public information. The report should also describe other air quality programs at the airport and how the ILEAV project has contributed to these efforts and the overall reduction of airport emissions.

The initial report from airport sponsors is due September 30, 2001. The interim reports will be summarized for use in the required FAA Report to Congress. A second interim report is due on September 30, 2002. The final report is due on September 30, 2003. The FAA reserves the right to extend the reporting requirements beyond this timeframe if needed to fully evaluate project benefits.