

Memorandum

To: County Judge Anthony Cobos, Commissioner Luis Sarinana,
Commissioner Veronica Escobar, Commissioner Miguel Teran and
Commissioner Daniel Haggerty

From: Rosemary Neill, Director, Family & Community Services Department

Date: 5/6/2008

Re: Consent Agenda Item for May 12, 2008, Commissioner's Court
Meeting

Action Item

Approve and authorize the County Judge to execute a grant application for submission to the U.S. Environmental Protection Agency (EPA) under the Clean Diesel Funding Assistance Program for the Blue Skyways Geographic Area on behalf of the El Paso County Rural Transit Program in collaboration with Ruby Mountain Inc., for \$1,506,661 in funding for a Heavy-Duty Natural Gas Vehicle Deployment Initiative at the U.S./Mexico Border.

Fiscal Impact

No county match will be required.

Background Information

Approval of this item will authorize submittal of a grant application for submission by the El Paso County Rural Transit Program to the U.S. Environmental Protection Agency (EPA) under the Clean Diesel Funding Assistance Program for the Blue Skyways Geographic Area in response to RFP Number: EPA-R6-BSCDERA-2008. The El Paso County Rural Transit Program; in collaboration with Ruby Mountain Inc., will submit a \$1,506,661 funding request in the amount of \$1,506,661 to fund a Heavy-Duty Natural Gas Vehicle Deployment Initiative at the U.S./Mexico Border. Specifically, this proposal will fund the retrofit of 27 heavy-duty vehicles operating in the El Paso region to enable the vehicles to operate on a mixture of 70 percent natural gas

May 6, 2008

and 30 percent diesel. No engine repower is required. Each selected project vehicle will be retrofitted with a certified electronics package and the existing diesel system modified to operate in a dual fuel configuration. The end result will be the introduction of low emission, strategically secure and reduced cost natural gas into heavy-duty vehicles providing transportation services in the El Paso/Ciudad Juarez maquiladora industry. A copy of the application is attached for your review.

Heavy-Duty Natural Gas Vehicle Deployment Initiative at the U.S./Mexico Border

Funding Proposal Submitted to the
U.S. Environmental Protection Agency (EPA)
Under the
**Clean Diesel Funding Assistance Program for the Blue Skyways
Geographic Area**
In Response to
RFP Number: EPA-R6-BSCDERA-2008

Applicant Information

Organization: El Paso County Texas
Address: 800 East Overland, Suite 208, El Paso, TX 79901
Contact: Bob Geyer, Transit Manager
Office: 915-834-8242
Fax: 915-532-4563
Email: bgeyer@epcounty.com

Funding Requested: \$1,506,661
Total Project Cost: \$1,506,661
Project Period: January 1, 2009 thru December 31, 2010

Heavy-Duty Natural Gas Vehicle Deployment Initiative at the U.S./Mexico Border

PROJECT PROPOSAL

May, 2008

INTRODUCTION

This funding proposal is submitted to the U.S. Environmental Protection Agency (EPA) under the Clean Diesel Funding Assistance Program for the Blue Skyways Geographic Area in response to RFP Number: EPA-R6-BSCDERA-2008. El Paso County; (Texas), in collaboration with Ruby Mountain Inc., is submitting this \$1,506,661 funding request to fund a Heavy-Duty Natural Gas Vehicle Deployment Initiative at the U.S./Mexico Border. Specifically, this proposal will fund the retrofit of 27 heavy-duty vehicles operating in the El Paso region to enable the vehicles to operate on a mixture of 70 percent natural gas and 30 percent diesel. No engine repower is required. Each selected project vehicle will be retrofitted with a certified electronics package and the existing diesel system modified to operate in a dual fuel configuration. The end result will be the introduction of low emission, strategically secure and reduced cost natural gas into heavy-duty vehicles providing transportation services in the El Paso/Ciudad Juarez maquiladora (twin plant) industry.

REGIONAL AIR QUALITY SUMMARY

Diesel emissions account for 6.3 million tons of oxides of nitrogen (NO_x) and 305,000 tons of particulate matter (PM) in the national mobile emissions inventory (2004). As in the national inventory, El Paso County diesel emissions come from a variety of on-road and non-road vehicles, such as those used for freight, international ports-of-entry, construction and agriculture. According to the EPA, El Paso County is currently non-attainment for carbon monoxide (CO), particulate matter (PM-10) and has recently been reclassified as non-attainment for ozone.

Reducing emissions from diesel engines is one of the most important air quality challenges facing the country. Even with more stringent heavy-duty highway and non-road engine standards taking effect over the next decade, millions of diesel engines already in use will continue to emit large amounts of nitrogen oxides, particulate matter and air toxics, which contribute to serious public health problems. This is particularly true in the El Paso region due to the large number of heavy-duty vehicles (over 3,500) which service the maquiladora industry between El Paso and Ciudad Juarez, Mexico. Most of the vehicles servicing the maquiladora industry average between 10 and 15 years in age.

Recent studies show that diminished air quality is the likely cause of thousands of premature deaths, hundreds of thousands of asthma attacks, millions of lost work days, and numerous other negative health impacts every year. Each year El Paso County experiences over 42 million “person-days” in exceedance of National Ambient Air Quality Standards, ranking 4th in the state of Texas, behind only Harris, Tarrant and Dallas counties. The pollutants reduced under this project include but are not limited to PM 2.5, Oxides of Nitrogen, Sulfur Dioxide, Carbon Monoxide, and Carbon Dioxide and diesel related toxics.

PROJECT SUMMARY/APPROACH

The Heavy-Duty Natural Gas Vehicle Deployment Initiative has been developed as part of a broader, integrated regional emission reduction, border security, and trade efficiency effort. Specifically, the project consists of the retrofit, repower and integration of natural gas hybrid technologies in 27 heavy-duty vehicles involved in the cross-border transportation of goods manufactured and/or assembled in the maquiladora industry. In coordination with a sister project, the vehicles selected for this effort may also be equipped with new intelligent transportation and security devices that have the potential to further reduce wait times and emissions while providing increased border efficiency and security.

This project is the first step in efforts that will target the over 3,500 maquiladora trucks typically operating within 30 miles of the border and are often 10-15 model years old or older. These trucks have been identified as major contributors to air pollution in the El Paso/Juarez/Sunland Park airshed as well as site-specific pollution at border ports of entry. Depending upon the technology deployed, emission reductions of up to 90% in certain criteria pollutants are anticipated. Additionally, carbon dioxide reductions of 20% to 30% are also expected.

While there are numerous benefits that result from this effort, the focus of this document are those benefits which directly impact air quality.

Specifically, the clean transportation component of the overall effort has the following goals:

1. Reduce heavy-duty vehicle emissions and encourage Clean Air Act Attainment
 - A. Criteria Pollutants
 - B. Carbon Dioxide – CO₂
2. Improve operational costs and efficiencies and promote Blue SkyWay Objectives
 - A. Lower fuel costs for fleet vehicle operators
 - B. Promote clean fuel use and energy diversity and security throughout the Border Trade System
3. Successfully test a variety of heavy-duty clean transportation technologies for use in El Paso and other communities on the border and elsewhere.

- A. Create test bed for demonstrations of technology innovations in heavy-duty applications that can be introduced to other border communities
 - B. Establish/expand fueling infrastructure for heavy-duty vehicles for the near term. Natural gas fueling can also serve as bridge to the hydrogen economy.
4. Deploy technologies which allow for linkages or coupling with existing border improvement efforts

The hybrid or dual fuel technology proposed as part of this effort addresses a wide variety of economic and practical considerations among fleet operators while allowing for the creation of a dynamic program as diverse as the nature of vehicles operating within the complex Border Trade System. Further, it provides a means of transitioning fleets off the exclusive use of diesel fuel toward other domestically produced energy sources thus providing added energy security while improving the environment.

PROJECT OBJECTIVES & TASKS

SCOPE OF WORK

In response to the project objectives identified by EPA in RFP #EPA-R6-BSCDERA-2008, El Paso County proposes the following tasks (at minimum) to complete the proposed project:

Objective 1: Fleet Identification/Recruitment of Project Partners

Task 1: Identification of border transportation companies interested in placing dual-fuel vehicles into fleets and whose fleets best provide opportunities for high visibility and a credible demonstration

Task 2: Verification of fleet technological compatibility with identified dual-fuel technology and willingness to comply with operating, monitoring and reporting requirements

Task 3: Formalize agreement(s) with project partners to provide marketing, promotion & support

Objective 2: Coordinate Vehicle Deployment Logistics – Fueling, Maintenance, Service/Support, Etc.

Task 1: Coordinate with fleet operators and/or natural gas supplier to ensure adequate natural gas refueling exists for demonstration vehicles

Task 2: Establish coordination for technology retrofits

Task 3: Coordinate with retrofitter and other shop facilities (as appropriate) to ensure sufficient local maintenance and support exists for demonstration vehicles

Task 4: Address other logistical issues as required

Task 5: Formalize agreement(s) with project partners to provide vehicle maintenance & support

Objective 3: Implement Alternative Fuel Vehicle Deployment/Data Collection

Task 1: Negotiate subcontracts with fleet operators

Task 2: Award subcontract(s)

Task 3: Monitor deployment of demonstration vehicles; Data collection (emissions, fuel consumption, driver satisfaction, vehicle performance, etc.)

Objective 4: Monitor Vehicle Operations/Future Deployment

Task 1: Review performance and operational success or failures with fleet owners

Task 2: Collect post-deployment data relevant to fuel displacement, energy savings, driver and company satisfaction, etc.

Task 3: Develop strategies to address issues or capitalize on opportunities for future expansion of dual-fuel vehicles engaged in cross border and/or transportation activities

Objective 5: Data Compilation/Presentation of Findings/Reporting

Task 1: Compile data from vehicle demonstration related to fuel savings, gasoline/diesel displacement, air quality benefits, financial benefits, fleet and driver satisfaction, vehicle performance, etc.

Task 2: Develop recommendations and/or strategies for full-scale deployment of hybrid heavy-duty vehicles and targeted heavy-duty clean transportation technologies in the El Paso/Juarez border region

Task 3: Present findings to EPA, other organizations and industry.

PROJECT PARTNERS

As both applicant and project manager, El Paso County is partnering with an organization with experience in clean fuel vehicle deployment and transportation systems development to staff the proposed project. Below is a brief description of the primary agencies involved in the staffing and implementation of the proposed effort:

El Paso County/El Paso County Transit

With Sun Metro as the only exception, El Paso County Transit is the largest public provider of transportation services in the Far West Texas area. Additionally, El Paso County, in coordination with Ruby Mountain Inc., is currently implementing a Heavy-Duty Natural Gas Vehicle Demonstration Project at the U.S./Mexico Border and has been involved in alternative fuel vehicle deployment for almost a decade. The County is also involved in the air quality and transportation planning process with the El Paso Metropolitan Planning Organization, state and local health and human service agencies, and other governmental and non-profit agencies.

Ruby Mountain, Inc.

Ruby Mountain principals and primary associates have over forty years of combined experience in addressing alternative transportation fuels and alternative fuel technology. Most recently Ruby Mountain Inc., in conjunction with the Idaho National Laboratory and other development parties has developed an alternative fuel bus for Yellowstone National Park and the U.S. National Park Service. The vehicle is capable of carrying passengers over the snow in winter (with tracks) and can be converted in the summer for over the road use. Ruby Mountain also helped in planning and implementing natural gas vehicle and fueling projects in New York, Texas and New Mexico. Also in Texas, utilizing the same chassis as developed for the national parks, and under the auspices of

the Texas Commission on Environmental Quality's New Technology Research and Development (NTRD) Program, RMI is currently involved in the development of an L/CNG natural gas bus which also incorporates a one-of-a-kind hydraulic launch assist system (HLA) for El Paso County. The bus will operate exclusively on alternative fuels, and with the HLA, and will have a range of nearly 1,000 miles. RMI is currently developing a series of technology related projects in Texas including an Intelligent Transportation System for demand-response vehicles, which will include the deployment of ITS systems in the El Paso region.

All of these projects have required RMI to organize, and implement complicated technology development projects and organizing personnel to provide alternatives to traditional transportation systems. From system design to fabrication, installation, and testing, RMI has participated in, or managed, all aspects of unique technology development efforts. Jon Lear will serve as the representative of RMI in the effort. Mr. Lear has over 20 years experience in alternative fuel vehicle deployment as well as experience in strategic planning, logistics, project development and management for new technology projects across the U.S. Mr. Lear has a law degree and has served as a Vice President for the Sundance Institute and Sundance Development Corporation. He is a senior partner in the law firm of Lear & Lear and serves as a Principal for Ruby Mountain Inc.

PROJECT SCHEDULE

Full completion of the proposed project is expected to take no more than 24-months from execution of contract.

PROJECT BUDGET

<u>Item/Category</u>	<u>EPA Funding</u>
Dual Fuel Hardware (Includes Duty-Cycle Analysis and Electronics Component Installation) (27 vehicles @ \$31,895 per vehicle)	\$ 861,165
Natural Gas Fuel Tanks (27 vehicles @ \$14,500 per vehicle)	\$ 391,500
Fuel System Installation Hardware (27 vehicles @ \$3,250 per vehicle)	\$ 87,750
Vehicle Monitoring & Testing (27 vehicles @ \$3,500 per vehicle)	<u>\$ 94,500</u>
Sub Total	\$1,434,915

Contract Administration & Reporting @ 5 percent	\$ <u>71,746</u>
Sub Total	\$ 71,746
TOTAL	\$1,506,661*

* No matching funds or cost share are required with this submission.