

NTRD Program Disclaimers

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**Texas Commission on Environmental Quality
New Technology Research & Development (NTRD) Program
Monthly Project Status Report**

Contract Number: 582-5-70807-0002

Grantee: County of El Paso

Date Submitted: 5-10-06

Report for the **Monthly** period:

Starting Date 4-1-06 Ending Date 4-30-06

Section I. Accomplishments *(Please provide a bulleted list of project accomplishments as well as a description of their importance to the project.)*

To date, El Paso County, Ruby Mountain Inc., the Idaho National Lab (INL), and Border Quality Campaign of El Paso del Norte have been coordinating with industry and local service providers in El Paso on the development of the natural gas shuttle bus for El Paso County. This has included the following:

- Coordination with ARBOC regarding final inspection of the project vehicle prior to transport to Essex, Connecticut for engine re-power (diesel to natural gas) and installation of natural gas refueling system (LNG and CNG).
- Conducted a meeting and several conference calls with Hydraulic Launch Assist (HLA) manufacturer Eaton Technologies to discuss project applications and timing issues as it relates to placing the HLA device on the project vehicle. Eaton currently has a sanitation vehicle project in operation and they are interested in improving their current HLA technology and testing its operation in applications beyond sanitation vehicles. Additionally, the project team identified a second provider of a mechanical hybrid device similar to Eaton's HLA and the team continues to review all other possible alternatives to ensure the best and least expensive HLA-type technology for the project. Eaton is currently the leading candidate.
- Conducted a site visit to Dallas, TX. to review performance of the engine proposed for this vehicle in other applications and to identify potential refueling infrastructure equipment to compliment the compressed natural gas capabilities and extend range of demonstration vehicle.
- Held meetings with Sun Metro to discuss LNG and CNG refueling facilities and potential integration of an emerging small-scale liquefaction technology demonstration in El Paso. Specifically, the project team is seeking to work with BOC Gases and GTI on the prospect of placing a small-scale gas liquefier at one of Sun Metro's existing fueling facilities in El Paso. The small-scale liquefier would provide LNG for the project vehicle.
- Held a meeting in New York with BOC Gases to discuss the prospect of the placement of a small-scale liquefier in El Paso.
- Held conference calls with Cummins-Westport representatives to identify qualified El Paso-area Cummins vendor for warranty service and/or repair of demonstration vehicle's natural gas engine.
- Conducted a site visit to Cummins Rocky Mountain in El Paso for the following reasons: assess capabilities and capacity to provide timely warranty and maintenance service to project vehicle; identify the procedural methods for service and repair of demonstration vehicle's natural gas engine; and evaluate the capabilities, training, equipment and past experience involved with the services to be provided.

- Attended an NTRD stakeholder meeting in The Woodlands, TX to discuss status of the NTRD project and provide input on current and future NTRD processes.
- Continued working to make modifications to the project work scope which will allow for a bifurcated field-testing process for the project vehicle.
- Continued planning for transport of project vehicle from Essex, CT to El Paso, TX

Indicate which part of the Grant Activities as defined in the grant agreement, the above accomplishments are related to:

Task 2: Installation and Fabrication

2.2 Task Statement: The performing party will install and fabricate the necessary components to construct the transit bus with ADA capabilities with the HLA and the LNG engine.

Task 4: Reporting

2.4 Task Statement: Prepare and submit monthly detailed project reports and a comprehensive final report while ensuring compliance with all TCEQ program requirements.

Section II: Problems/Solutions

<p>Problem(s) Identified</p> <p><i>(Please report anticipated or unanticipated problem(s) encountered and its effect on the progress of the project)</i></p>	<p>As stated previously, the project partners have been working for some time to establish a network for continuing routine maintenance and warranty service for the project vehicle.</p>
<p>Proposed Solution(s)</p> <p><i>(Please report any possible solution(s) to the problem(s) that were considered/encountered)</i></p>	<ul style="list-style-type: none"> • Arranging factory maintenance training for personnel from Cummins Rocky Mountain to perform warranty work on the Cummins B Gas Plus engine and arranging for personnel from Border International to perform warranty work on the International Chassis. • Ensuring availability of sufficient parts at El Paso dealerships for the project vehicle.

<p>Action(s) Conducted and Results</p> <p><i>(Please describe the action(s) taken to resolve the problem(s) and its effect)</i></p>	<p>In April 2006, the project team took the following actions to ensure proper maintenance and warranty service for the project vehicle:</p> <ul style="list-style-type: none"> • Coordinated with Cummins Westport to identify a qualified service provider in the El Paso area. • Conducted a site visit to Cummins Rocky Mountain to assess the company's capacity to perform timely warranty and routine maintenance service on the project vehicle. • Held discussions with Border International to perform warranty work on the International Chassis. <p>After visits to both the International and Cummins dealerships in the El Paso area, the project team has determined that the primary warranty and maintenance service provider for the Cummins B Gas Plus engine will be Cummins Rocky Mountain in El Paso. This decision was based largely on the fact that the staff at Cummins Rocky Mountain has the experience, training and certifications necessary to provide the services required. Warranty service on the project vehicle's International chassis will be provided by Border International, which has both the experience and facilities necessary to provide any anticipated repair.</p>
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Section III. Goals and Issues for Succeeding Period: *(Please provide a brief description of the goal(s) you hope to realize in the coming period and identify any notable challenges that can be foreseen)*

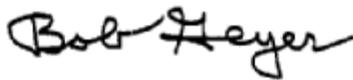
Work in the next month of the project period will focus on the following contract tasks:

Task 2: Installation and Fabrication of bus.

2.2 Task Statement: The performing party will install and fabricate the necessary components to construct the transit bus with the L/CNG engine and tank systems.

2.2.1 Install and fabricate the necessary components to construct the transit bus with L/CNG engine.

- a. Install CNG fuel system
- b. Fabricate and install LNG system
- c. Fabricate and install economizer valve
- d. Design interface software to integrate CNG and LNG system
- e. Integrate L/CNG system with engine



Date: 5/10/2006

Authorized Project Representative's Signature

NOTE: *Please attach any additional information that you feel should be a part of your report or that may be required to meet the deliverable requirements for tasks completed during this reporting period.*