

## **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: \_3-6-06\_\_\_\_\_

Report for the **Monthly** period:

Starting Date \_2-1-06\_\_\_\_\_ Ending Date \_2-28-06\_\_\_\_\_

**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 transit bus for El Paso County. This has included the following:

- ARBOC regarding manufacture of the project vehicle.
- Bell Power Systems about the installation of the Cummins 5.9L B Gas Plus natural gas engine into the International 3200 chassis, including details regarding anticipated engine and transmission performance, natural gas fuel system plumbing and installation issues and logistics.
- Coordinated with ARBOC, INL and Bell Power Systems on design and integration of fueling distribution panel into project vehicle.
- Coordination with Diesel Repair of Arizona and Bell Power Systems on CNG tank shipping logistics - tanks were shipped and have been received by Bell Power Systems.
- Coordination with Taylor Wharton and Bell Power Systems on LNG tank shipping logistics – the LNG tank was shipped and has been received by Bell Power Systems.
- Continued work on Task 1 NTRD Contract Deliverable related to a report on the final design for fabrication of the project vehicle.
- Coordination with Bell Power Systems to begin obtaining parts and serviceable items of importance for delivery with the project vehicle – having anticipated parts on-hand will reduce down-time associated with any needed repairs on the project vehicle once it is placed into service in El Paso.
- Held discussions with El Paso County and TCEQ program staff to make modifications to the project work scope that will allow for a bifurcated field-testing process for the project vehicle.
- Discussed short- and long-term refueling issues and logistics with Sun Metro, related to natural gas fueling for the project vehicle.
- Initiated discussions with Bell Power Systems identifying transport methods and/or refueling infrastructure to get project vehicle from Essex, CT to El Paso, TX
- Continued coordination among project partners on engine service/repair considerations and maintenance requirements needed for project application.

**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.

Section II: Problems/Solutions

<p><b>Problem(s) Identified</b></p> <p><i>(Please report anticipated or unanticipated problem(s) encountered and its effect on the progress of the project)</i></p>	<p>Last month, a problem was reported dealing with the economizer valve design resulting in insufficient control upon LNG vaporization causing irregular fuel flow through the shuttle valve. While the vehicle would have operated within acceptable parameters under the current valve configuration, INL engineers felt that a redesign would result in increased efficiency and tighter fuel control.</p>
<p><b>Proposed Solution(s)</b></p> <p><i>(Please report any possible solution(s) to the problem(s) that were considered/encountered)</i></p>	<p>A new design was developed which allows greater magnetic control of the valve. Testing has been performed and a modified implementation design has been developed. Part of this new design was based on an installation that has been in testing on over-the-road busses at the INL. The benefits of this new design not only allow for pressure to be built in the LNG tanks, but when necessary (if the LNG is too cold and vaporization would not occur) pressurized gas from either the vaporization lines or the CNG tanks would be introduced into the LNG tank to build the necessary pressure.</p>
<p><b>Action(s) Conducted and Results</b></p> <p><i>(Please describe the action(s) taken to resolve the problem(s) and its effect)</i></p>	<p>The new implementation design has been documented and will be discussed in a conference call with Bell Power Systems the first week in March.</p>

**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

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.

2.2.1 Install and fabricate the necessary components to construct the transit bus with ADA capabilities with the HLA and the LNG engine

2.2.1.1 Install low-floor chassis

2.2.1.2 Fabricate and install HLA mounting system

2.2.1.3 Develop wiring/plumbing interfaces to engine and brakes

2.2.1.4 Design interface software to manage engine and brake systems

2.2.1.5 Install hardware/software in chassis



Date: 3/6/2006

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*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.*