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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: _09-08-05_____

Report for the **Monthly** period:

Starting Date __08-01-05_____ Ending Date __08-31-05_____

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, 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:

- ARBOC regarding finalization of body specs, chassis specs and manufacture of the bus.
- John Deere and Bell Power Systems about the feasibility of integrating their engine into the International 3200 series chassis. This includes details regarding the wiring harness, operational temperatures as well as the physical size of the engine.
- Border International trucks regarding details on the physical dimensions of the International Tractors and 3200 series chassis.
- Idaho National Laboratory maintenance personnel that would be installing the natural gas system on this bus.

Complete body specs on the vehicle have been given to ARBOC and fabrication is expected to begin in September.

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

Task 1: Engineering Design and Packaging

Section II: Problems/Solutions

Problem(s) Identified *(Please report anticipated or unanticipated problem(s) encountered and its effect on the progress of the project)*	As the project team focus turned to integrating the John Deere Model 6081 natural gas engine into the International Tractor, two primary concerns came to light: 1) The first concern dealt with the physical dimensions of the Deere Engine and that it may not physically fit into the engine cavity of the International Tractor; and, 2) The second primary concern being the operating temperature of the Deere Model 6081 Natural Gas Engine. The Deere engine burns extremely hot and works very well on a rear-mount vehicle, but when the same engine is deployed in a front-mount vehicle, heat (and getting a sufficient radiator to vent that heat) becomes a concern
Proposed Solution(s) *(Please report any possible solution(s) to the problem(s) that were considered/encountered)*	With regard to the two primary concerns, the following proposed solutions are being explored: 1) The project team is currently working to determine full compatibility (in terms of physical dimensions) between the John Deere Model 6081 and the International Tractor; and, 2) The project team is currently investigating multiple options to mitigate the heat issue on the John Deere Model 6081 natural gas engine by increasing the size of the radiator and/or regulation of fuel flow through the engine
Action(s) Conducted and Results *(Please describe the action(s) taken to resolve the problem(s) and its effect)*	The project team is currently exploring multiple alternatives to the Deere engine that have recently become commercially available, including examination of engine size, availability and maintainability. The engine technologies being researched include: Cummins 5.9L natural gas engine, International 365 natural gas engine and the Navistar DT466 natural gas engine. Results to be determined and a decision is expected by mid-September.

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 1: Engineering Design and Packaging

2.1 Task Statement: Engineering design and packaging to integrate the HLA and LNG engine to the ADA transit bus chassis and will submit the design to TCEQ for approval prior to installation and fabrication described under Task 2.

2.1.1. Engineering and design and packaging to integrate the HLA and LNG engine to the ADA transit bus chassis.

2.1.1.1. Package HLA in low floor rear drive chassis.
2.1.1.2. Design/detail required parts sufficient for fabrication.

This next month we will be finalizing on the design of the bus and associated natural gas power train for the bus. The bus development will begin. Industry partners will be integrated with and the individual components of the project will be advanced.

Bob Harper
Authorized Project Representative's Signature

Date: 9/8/05

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.*