

NTRD Program Disclaimers

1. Disclaimer of Endorsement:

The posting herein of progress reports and final reports provided to TCEQ by its NTRD Grant Agreement recipients does not necessarily constitute or imply an endorsement, recommendation, or favoring by TCEQ or the State of Texas. The views and opinions expressed in said reports do not necessarily state or reflect those of TCEQ or the State of Texas, and shall not be used for advertising or product endorsement purposes.

2. Disclaimer of Liability:

The posting herein of progress reports and final reports provided to TCEQ by its NTRD Grant Agreement recipients does not constitute by TCEQ or the State of Texas the making of any warranty, express or implied, including the warranties of merchantability and fitness for a particular purpose, and such entities do not assume any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represent that its use would not infringe privately owned rights.

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

Contract Number: __582-5-70807-0011 ____

Grantee: __Rolling Frito Lay Sales, LP_____

Date Submitted: __July 13, 2006_____

Report for the **Monthly** period:

Starting Date __07/01/06_____ Ending Date __07/31/06__

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

- **Project Management**

- Signed and executed copies of the third amendment to the contract have been received from TCEQ. The overall project schedule has been updated to reflect the latest in vehicle delivery timing, and details in the area of testing have been added to the project tracking schedule as well.

- **Vehicle Construction** –

- **Azure Dynamics** – Azure has run into unexpected difficulties in executing their plan to provide additional transmission control while the vehicle is decelerating or coasting. The General Motors 4L80E transmission does not downshift actively enough when the vehicle decelerates to provide sufficient driveline speed and load to enable regenerative braking, and attempts to electromechanically control the shifter mechanism to force downshifts has not been as successful as anticipated. Efficiency improvements over the baseline truck are in the 5-10% range now without the transmission control as desired. Attempts to work with the GM powertrain engineers to gain further understanding of the transmission have been largely unsuccessful. Azure is currently evaluating options for improved performance and truck delivery. One option that requires exploration is delivery of a series type hybrid electric truck versus the parallel configuration previously assumed. TCEQ will be contacted regarding the potential for this approach.
- **Eaton/International** – The chassis mechanical and electrical conversion to hybrid drive is complete. The chassis has been delivered to Utilmaster Corp. in Wakarusa, IN to have the step van body installed on the chassis. The bodied truck will be ready for delivery by 8/14, approximately 2 weeks behind the anticipated schedule. Eaton has been approached for opportunity to reduce control system tuning time from 8 to 6 weeks, and they have agreed, by transferring as much of the baseline tuning from similar vehicles as possible. Vehicle completion and delivery is currently scheduled for 9/29.

- **Testing/Data Acquisition**

Testing Protocol & Project Management – Lopez Garcia Group

The testing protocol document has been revised by Lopez Garcia, and now is awaiting further input from Frito-Lay. Upon finalization, the proposal document will be submitted to TCEQ for approval.

Emissions Instrumentation – Clean Air Technologies

Schedule details for delivery, installation, and calibration of the PEMS has been worked with Clean Air Technologies. Some detail needs to be added to the testing phase of the project schedule. The project working schedule will be updated and communicated between Frito-Lay, Clean Air Technologies, Southwest Research, and Lopez Garcia Group.

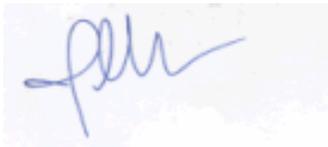
Indicate which part of the Grant Activities as defined in the grant agreement, the above accomplishments are related to:

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><i>Approximately 2 weeks potentially lost in International Truck delivery due to body building phase taking longer than anticipated.</i></p>
<p>Proposed Solution(s)</p> <p><i>(Please report any possible solution(s) to the problem(s) that were considered/encountered)</i></p>	<p>1) <i>Work closely with Utilimaster (body builder) for creative solutions to reduce build time.</i></p> <p>2) <i>Approach Eaton Corp for 2 week reduction possibility in vehicle tuning time required.</i></p>
<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><i>Multiple daily conference calls conducted between Frito-Lay, International, and Utilimaster to coordinate chassis delivery and body building steps. Body build time was reduced from 3-4 weeks anticipated to <1week. Eaton agreed to 6 weeks versus 8 weeks of tuning time based on previous experience with like vehicles. Overall International/Eaton delivery schedule does not change.</i></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)*

1. *Continue vehicle construction activities with each supplier. Intervene as necessary to ensure vehicle delivery does not slip. Could continue to be a challenge with each supplier due to the unforeseen difficulties to date.*
2. *Finalize testing protocol document & submit to TCEQ for approval.*
3. *Firm up testing arrangements and schedule with Southwest Research and Clean Air Technologies.*
4. *Begin to identify key players and routes within Frito-Lay delivery system for on-road testing phase of project due to begin in November.*



Date: August 08, 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.*