

NTRD Program Disclaimers

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

Contract Number: 582-5-65591-0001

Grantee: Catalytica Energy Systems

Date Submitted: 11/9/04

Report for the **Monthly** period: October, 2004

Starting Date 10/18/04

Ending Date 10/31/04

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

Task 1 Accomplishments:

- Installed three thermocouples on Denton target vehicles (1997 International Dump truck VIN: 1HTSHAAR3VH489896, 1997 International Refuse Truck VIN: 1HTSHAARXWH497687)
- Monitored and logged temperature data for each vehicle for one day. The temperature data will be used to determine duty cycle applicability for the XononD product and to design the dynamometer test cycles for the prototype system evaluation. The data is currently being analyzed and the results will be reported in the next status report.
- Took detailed measurements of the available on-truck installation space. These measurements will be used to determine the location of:
 - The XononD container
 - Fuel delivery system (pump, motor, injector, filter, etc)
 - Fuel lines
 - Electrical wiring harnesses
 - XononD controller

A 3-D system model will be used to determine mounting points, harness routing, fuel line routing and clearances

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

The accomplishments listed above are all part of Task 1 (Capture project vehicle information) in the Grant Agreement.

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>(1) <i>The installation space on the dump truck is much more restrictive than on the refuse truck. A large compressed air tank mounted on the side frame would interfere with the exhaust exit piping.</i></p> <p>(2) <i>The preliminary assessment of the dump truck temperature data indicates that there is a large amount of time spent at idle conditions where the exhaust temperature is cooler than desired.</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>Look at the possibility of moving the air tank to another location</i></p> <p>(2) <i>Perform a more thorough duty cycle analysis to assess the impact of the cooler exhaust temperatures on XononD performance. If the analysis concludes that the dump truck duty cycle is not well suited for XononD, CESI would request a change in the target project vehicle.</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>(1) <i>After consulting with the fleet manager (Mike Ellis) it was determined that the air tank could be moved to a more desirable location without affecting the vehicle functionality.</i></p> <p>(2) <i>A more detailed analysis of the duty cycle data is currently underway.</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) Complete Task 1 deliverables:
 - a. System schematic
 - b. Duty cycle analysis
- (2) Begin Task 2 (Dynamometer testing) activities
 - a. Develop testing protocol aligned with Denton vehicle data
 - b. Initiate system performance testing using steady-state test cycles



Authorized Project Representative's Signature

Date: 11/9/04

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.*