

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-M031

Grantee: Extengine Transport Systems, LLC

Date Submitted: 08/16/06

Report for the **Monthly** period:

Starting Date 07/01/06 Ending Date 7/31/06

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

Task 1: (all technical work is included in this task)

- Conducted teleconferences with EPA's Cliff Dean and ARB's Dean Bloudoff to discuss changes to the test plan and system design characteristics
- Discussed with Waste Management specific vehicles available for durability tests.
- Completed tests of Cummins M11 (10.8L) engine at Olson-Ecologic. Obtained emissions as follows:

	----- gm/hp-hr -----					%	
	HC	CO	NOx	PM	Fuel Consumption	NO2/NOx	
Baseline	0.161	0.77	4.74	0.075	169	8	
With ADEII	0.001	0.18	1.29	0.005	171	6	
% Change	-99%	-76%	-73%	-94%	+1.3%	---	

Previous results of the same ADEC hardware and software with the Mack E7 (11.9L) engine at Olson-Ecologic were:

	----- gm/hp-hr -----					%	
	HC	CO	NOx	PM	Fuel Consumption	NO2/NOx	
Baseline	0.071	0.58	4.23	0.080	195	6	
With ADEII	0.023	0.00	0.96	0.007	198	9	
% Change	-67%	-100%	-77%	-92%	+1.3%	---	

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

These accomplishments relate to preparation of test hardware and the initiation of testing. Work to date is required prior to start of testing. These charges are not reimbursable by the grant. A no-charge FSR is submitted with this report.

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>	<ol style="list-style-type: none"> 1) EPA/ARB review and program approval is taking longer than expected in part because EPA and ARB have different approval processes that are inconsistent in several areas. 2) Most or all of the durability must be conducted on-road rather than on engine dynamometers which will delay verification testing. 3) System backpressure remains high due to complexity of exhaust system.
<p>Proposed Solution(s)</p> <p><i>(Please report any possible solution(s) to the problem(s) that were considered/encountered)</i></p>	<ol style="list-style-type: none"> 1) Begin on-road data collection and aging as soon as possible even without approval to start since both agencies want in-use data in order to confirm system functionality. 2) Obtain commitment for on-road durability from vehicle operator. 3) Additional testing may be required to resolve some questions, including system backpressure.
<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>	<ol style="list-style-type: none"> 1) Continuing negotiation between agencies on scope and approach – no resolution at this time. Awaiting a new inquiry letter from CARB. 2) Contact Waste Management to obtain a test vehicle in Southern California. No Mack E7 is available in WM's California vehicle fleet. The most common engine in California vehicles is the Cummins M11. Extengine has tested the system on the M11 with similar results as for the Mack E7 data. 3) Additional tests are being scheduled with alternate exhaust system configurations.

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)*

Goals:

- Obtain approval from EPA to begin on-road durability.
- Negotiate test protocol between RTI, SwRI, EPA and ARB

Issues:

- Resolution of ARB/EPA questions
- System backpressure is significantly higher than OE specification
- Verification criteria for SCR/DPF performance



August 16, 2006

Date: _____

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.*