

NTRD Program Disclaimers

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

Contract Number: NTRD Contract No. 582-5-65591-0008

Grantee: Rotec Design Ltd

Date Submitted: August 31, 2005

Report for the **Monthly** period:

Starting Date: May 1, 2005

Ending Date: August 31, 2005

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

- Completed initial Project Agreements with partners detailing project timing and partner in-kind contributions.
- Grantee and partners agree that the objective of the project will be to:
 1. Reduce NOx emissions to the maximum extent possible, with a minimum target of 60% reduction from the tested "Baseline" (non-converted) engine.
 2. Reduce PM emissions to the maximum extent possible with a minimum target of 60% reduction from the tested "Baseline" (non-converted) engine.
 3. Improve fuel economy to the extent possible without reducing HP / Torque / performance vs. the tested "Baseline" (non-converted) engine.
- Selected Project engines: \
 - Ford 7.8 Liter HD 6 cylinder Diesel on-road engines (1987-1992 models)
 - EPA Engine Family: MFM07 8FPK8
 - Partner (approx.) in-use volumes :
 - TxDot = 411 units -- Ford 8000 LT & LTS single axle "dump" trucks
 - CenterPoint Energy = 96 Ford 8000 LT & LTS single axle "bucket" trucks
- Procured initial project engine and shipped to Rotec Design for design / modeling
 - Serial Number VZ094650, (original build 05/06/1991)
 - Plate Number: F1HN-9C485-AA
 - Jasper Engine & Transmission: remanufactured (April 2005) as :
 - 1991 Jasper Engine Model 270
 - Part No. L9HN-6007-XC

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

Above activities are related to Article 2. Scope of Work and cover:

Task 1: Engine Family Selection

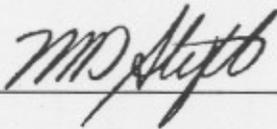
Task 2: Determination of Emission reduction Objectives

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>None – to date</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>N/A</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>N/A</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. Initiate solicitation of OEM (Ford) information regarding the project engine including basic drawings, specifications, emission testing data, performance, etc.
2. Initial design analysis to determine basic design parameters, system packaging constraints, general configuration, location, initial size and unit specification estimates for the FreedomAir system.
3. Initiate revisions "Testing Protocol – Scope of Work" with US EPA and RTI (Research Triangle Institute) to incorporate specific project details (i.e., engine model, usage, family, etc.).
4. Follow-up with potential Texas component / prototype suppliers to confirm continued interest in the project and obtain detailed requirements to develop "RFQ" packages.



Authorized Project Representative's Signature

Date: August 31, 2005

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.*