

## **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 – 0008

Grantee: Rotec Design, Ltd

Date Submitted: May 9, 2006

Report for the Monthly period: Ending March 31, 2006

Starting Date: Jun. 22, 2005

(Notice to Proceed date)

Ending Date: Aug. 31, 2006

(Per Amendment #1)

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

1. Continued design analysis and CFD modeling to optimize final design parameters, general configuration, and unit specification estimates for the FreedomAir system.
2. "Testing Protocol – Scope of Work" with US EPA and RTI (Research Triangle Institute) returned by RTI to incorporating specific project details (i.e., testing modes, fuels, etc.). Awaiting review & approval of suggested changes from EPA /RTI.
3. Final due diligence for "Emerging Technology Fund" (ETF) completed. Award pending (TBD) by Governor Perry's office.

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

- Task 3: Construction of FreedomAir system. Initial design of components prior to prototype manufacturing.
- Meet TCEQ / NTRD general guidelines vis-à-vis the commercialization of the emission reduction system as soon as possible and pursue additional economic benefits to the State of Texas.

## Section II: Problems/Solutions

<p><b>Problem(s) Identified</b></p> <p><i>(Please report anticipated or unanticipated problem(s) encountered and its effect on the progress of the project)</i></p>	<ul style="list-style-type: none"> <li>• Final proposal from Orbital Engineering delayed due to non-controllable (economic) variables resulting in final design / drawing delays. Tasks # 3 delay TBD.</li> <li>• Final designs / RFQ's from suppliers delayed pending Orbital Engineering proposal and design review and input. Tasks # 3 delay TBD.</li> <li>• Revised project timetable under review.</li> </ul>
<p><b>Proposed Solution(s)</b></p> <p><i>(Please report any possible solution(s) to the problem(s) that were considered/encountered)</i></p>	<ul style="list-style-type: none"> <li>• New contractor(s)</li> <li>• Seek Queensland / Australia assistance on behalf of Orbital Engineering.</li> <li>• Locate and hire additional staff with expertise required.</li> </ul>
<p><b>Action(s) Conducted and Results</b></p> <p><i>(Please describe the action(s) taken to resolve the problem(s) and its effect)</i></p>	<ul style="list-style-type: none"> <li>• Rotec is researching alternative suppliers with automotive engineering expertise for review / input on modeling and design parameters completed to date.</li> <li>• Rotec is researching possible alternatives to provide assistance to Orbital Engineering to ameliorate the delays.</li> <li>• Rotec to seek possible personnel recommendations from Queensland Technical Univ. and Univ. Texas - Austin</li> </ul>

**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 engine-modeling analysis to refine and optimize design parameters, system packaging constraints, general configuration, location, and initial size and unit specification estimates for the FreedomAir system.
2. Continue system layout and design activities.
3. Review and finalize changes to testing methodology, proposed by RTI, to allow for "dynamometer" aging vs. "field run-in" aging in order to reduce testing costs and expedite final testing data results.
4. Continue discussions with potential Texas component / prototype suppliers to confirm continued interest in the project and obtain detailed requirements to develop "RFQ" packages.
5. Continue discussions with Orbital re: engineering support. Finalize initial quotation / costs for project support.

  
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Date: May 9, 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.*