

## **NTRD Program Disclaimers**

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**Texas Commission on Environmental Quality  
New Technology Research & Development (NTRD) Program  
Monthly Project Status Report  
GTI Project # 20284**

Contract Number: 582-5-70807-0001

Grantee: Gas Technology Institute

Date Submitted: November 10, 2006

Report for the Monthly period: October 2006

Starting Date: October 1, 2006                      Ending Date: October 31, 2006

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

<b>Accomplishment</b>	<b>Importance to the Project</b>
GTI and the University of Texas, Center for Electromechanics have agreed on all key terms for UT-CEM's participation in this project. A contract is in process of being negotiated that would provide for co-funding of a fuel cell bus in Austin.	UT-CEM's participation in the project is important because it provides important funding for the fuel cell vehicle, it provides certainty for site selection, thereby clarifying outstanding design criteria, and UT-CEM will be an excellent host for the station demonstration.
GTI and UT – CEM have met with multiple fuel cell bus suppliers and have selected a vehicle provider. A contract is in the process of being negotiated.	Identifying a fuel cell vehicle configuration and supplier is a key deliverable for this project.
GreenField has completed the basic design of the fueling station skid and container configuration.	GTI and GreenField are finalizing the integration of the five key components of the on-site hydrogen station configuration; the reformer (hydrogen generation unit, purification system, compressor, storage, and dispensing. There are also multiple sub-components such as the water treatment system, filtration, air intake, and cooling system that are being engineered. Subsystem configuration and integration "inside the container skid" will continue to be the focus of the fueling station work for the next reporting period.
GTI is continuing with lab tests of the steam methane reformer (SMR) at its labs in Des Plaines.	SMR system optimization will continue through the next reporting period.

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

Accomplishment	Grant Activity
Host site negotiations for station deployment	Task 1, Article 2.1.2 in the Project S.O.W.
Vehicle proposal evaluations	Task 2
Integrated fueling station engineering and design	Task 1
SMR design, fabrication and testing	Task 1, Article 2.1.1.1 in the Project S.O.W.

## 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>	<ol style="list-style-type: none"> <li>1) GTI's available funding is insufficient to acquire a fuel cell vehicle that meets TCEQ parameters.</li> <li>2) GTI and GreenField have experienced delays in fabricating the integrated fueling station, primarily due to delays in obtaining subsystem components.</li> </ol> <p>These issues continue from last month's report.</p>
<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>	<p>GTI has identified supplemental federal funding through the University of Texas, Center for Electro-mechanics, as part of a US DOT program.</p> <p>GTI and its Austin-based partners will jointly purchase and operate a fuel cell shuttle vehicle in Austin.</p>

**Action(s) Conducted and Results**

*(Please describe the action(s) taken to resolve the problem(s) and its effect)*

GTI and UT-CEM have agreed to all key points for a project partnering agreement that will result in a fuel cell shuttle bus being delivered to Austin in 2007.

GTI and GreenField have solved all key issues pertaining to the integration of subsystems in the hydrogen fueling station. Engineering work continues to address remaining configuration and location of various components in the integrated fueling station. No unexpected “show-stoppers” have arisen, and system work is progressing.

**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)*

- Continue preliminary work on the most likely deployment location and begin on-site permitting, gas supply, and operating groundwork.
- Generate a cost estimate for the deployment phase of the fueling station project
- Complete the fabrication work on the integrated fueling station.
- Complete all related partnering contracts, and fuel cell vehicle supply contracts.
- Schedule and complete a review with TCEQ for all proposed contract amendments that will be needed to accommodate expected project updates.



Date: 11-10-2006

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*Authorized Project Representative's Signature*

**J. B. Weeks, Associate Director,  
Hydrogen Energy Systems  
Gas Technology Institute**

**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.*