

NTRD Program Disclaimers

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**Texas Commission on Environmental Quality
New Technology Research & Development (NTRD) Program
Monthly Project Status Report
GTI Project #20485**

Contract Number: 582-5-70807-0018

Grantee: Gas Technology Institute

Date Submitted: December 10, 2005

Report for the Monthly period: November 2005

Starting Date: November 1, 2005

Ending Date: November 30, 2006

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

Accomplishment	Importance to the Project
<p>The gas liquefier has been partially disassembled in order to begin upgrading components in preparation for the field test.</p> <p>This work is a continuation from the October, 2005 report.</p>	<p>Components for the liquefier are being individually tested and evaluated in order to determine whether they should be replaced, or cleaned and reinstalled. Components evaluated include:</p> <ul style="list-style-type: none"> • Gas clean-up system • Oil separator • Valve train for gas clean-up system • Heat exchanger • Oil cooler
<p>Engine components have been replaced including batteries, plugs, and plug wires</p> <p>The compressor oil cooler stands have been fabricated and painted.</p>	<p>Component refurbishment and/or replacement is needed to assure reliability and to maximize efficiency of the system.</p>
<p>The entire system has been moved to an enclosed area indoors for disassembly</p>	<p>This is to provide better access during the work process.</p>

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

Accomplishment	Grant Activity
Liquefier system disassembly and component evaluation and replacement	Tasks 1-6
Engine component replacements	Tasks 1-6

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) Height of current refrigerant heat exchanger could present problems for transporting the unit from GTI's testing labs to its deployment site in Texas. 2) H-E-B Grocery may no longer be a suitable deployment location for the natural gas liquefier. <p>These issues are carried over from last month's report</p>
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<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. Incorporating reinforcement bracing into the existing design can stabilize the heat exchanger unit. 2. GTI has identified a major transit agency in Texas that operates LNG vehicles and is interested in becoming a replacement host site for the natural gas liquefier. <p>These solutions are still in progress from last month's report</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>	<ol style="list-style-type: none"> 1. GTI is now designing a bracing configuration into the liquefier heat exchanger that would stabilize the system during transit. 2. GTI is currently in discussions with the transit agency concerning the details for field-testing the liquefier at that agency's LNG fueling site. The replacement host site is located in a non-attainment area. <p>These actions are carried over from last month's report and are ongoing.</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)*

- Continue systems refinement, efficiency enhancements, and system optimization activities that were initiated during October.
- Reach agreement on deployment location and begin on-site permitting, gas supply, and operating groundwork.



Date: 12-9-05

Authorized Project Representative's Signature

**J. Brian 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.*