

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

Contract Number: 582-11-13469-2019

Grantee: QuantLogic Corporation

Report for the Monthly period: June 2011 **Date Submitted:** July 9, 2011

Section I. Accomplishments

Provide a bulleted list of project accomplishments as well as a description of their importance to the project.

- Project tasks were initiated upon receiving NTP on June 8th from TCEQ. A project kick-off meeting was held with TCEQ on June 15th. Reporting and invoice procedures were described by TCEQ.
- Notice to Proceed was issued to sub-contractor HARC.
- Project task progress according to SOW is listed below. Project is in good progress as planned.

Task 1: Procure Components within 3 months: 3% completion of the task.

- Held project kick-off meeting with HARC: further discussed the project goals, deliverables and timeline, toured HARC engine-dyno lab.
- Discussed system configuration and options with HARC. Identified key components to be procured for the project.
- Started components procurement process: Rapid prototyping engine control unit (ECU) is a key component to the implementation of low engine-out emissions control strategy. An open-ECU platform is a best fit for the project for its flexibility of programming and robustness for vehicle installation and application at the vehicle retrofit stage of the project. Contacted open-ECU suppliers for rapid prototyping control system procurement. Provided the engine control parameters to the vendor. Waiting for the vendor to provide recommendations.

Task 2: Set up engine retrofit and engine control systems within 6 months. 5% completion of the task.

- Started engine installation: This is the first task of the Engine retrofit setup. A customized engine cart and engine support frames were fabricated. The test engine mounting was completed as shown in Figure 1.



Figure 1 Test Engine Mounting on Engine Cart

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

The authorized tasks are related to following SOW:

- Task 1: Procure Components within 3 months (end of August 2011):
 - a) Finalize the specifications for and procure all test components needed for the completion of the project,
 - b) Procure all test components needed to complete the project.
- Task 2: Set up engine retrofit and engine control systems within 6 months (end of Nov 2011).
 - a) Set up the engine, dual loop EGR retrofit, and engine control systems in the laboratory in preparation for testing.
 - b) Install instrumentation for monitoring all major engine operation parameters
 - c) Set up the engine control system for fueling control, dual loop EGR control, and boost control.

Section II: Problems/Solutions

Problem(s) Identified: Report anticipated or unanticipated problem(s) encountered and its effect on the progress of the project

- a) None

Proposed Solution(s): Report any possible solution(s) to the problem(s) that were considered/encountered

- a) **Remarks:** The project was started a couple of weeks late than initially proposed based on authorized NTP date. However, we expect to make up the time within first 6 months, and we can synchronize the progress with initial plan.

Action(s) Conducted and Results: Describe the action(s) taken to resolve the problem(s) and its effect

- a) N/A

Section III. Goals and Issues for Succeeding Period:

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 discussion with Open-ECU vendor regarding the configuration and delivery time.
- Continue procurement of other components for engine retrofit and setup as described in Task 1.
- Continue engine setup with control system and retrofit with dual loop EGR systems as described in Task 2.
- Continue commercialization efforts.

Date: July 9, 2011

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.*