

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

Contract Number: 582-11-13469-2019
Grantee: QuantLogic Corporation (Quantlogic)
Report for the **Date** January 7,
Monthly period: December 1, 2012, to January 7, 2013 **Submitted:** 2013

Section I. Accomplishments

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

Task 4: Transient Control Strategy Development and Testing.

- Task 4 is 100% completed
- Completed the integration of engine control models into open engine control unit (ECU_ hardware and carried out the hardware level control function verifications, and control tuning.
- After each control function's tuning, the engine control system was verified that is capable for transient operation for the updated dual loop exhaust gas recirculation (EGR) system. Figure 1 shows the updated low pressure loop EGR system.

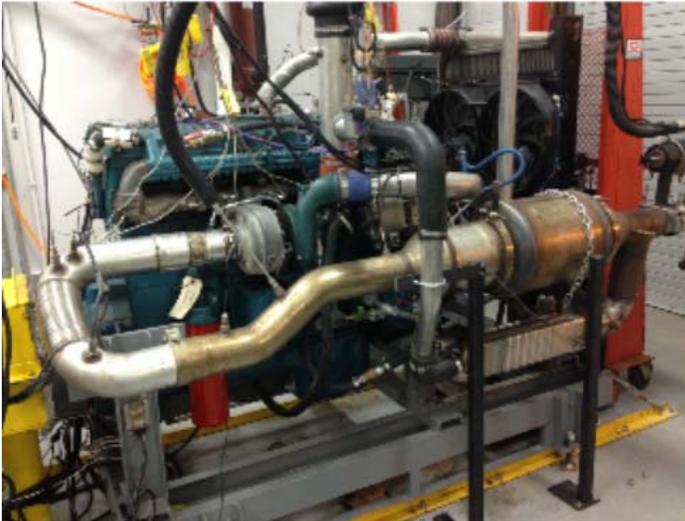


Figure 1 Updated Dual Loop EGR System

Task 5: Transient Emissions Tuning and Testing

- Currently, the project is at the initial stage of Task 5 of emissions tuning and testing. 3% completed.

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

Task 4: Transient Control Strategy Development and Testing. 2.4. Task Statement: The PERFORMING PARTY will develop and test an engine control strategy which can smoothly adjust the EGR to the target NO_x emission reduction levels during transient engine operation without noticeable impact to the engine operation.

Task 5: Transient Emissions Tuning and Testing. 2.5. Task Statement: The PERFORMING PARTY will finalize the engine control parameters to achieve targeted emissions goal and emissions test the retrofitted engine.

Section II: Problems/Solutions

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

- a) Task 5 engine emission testing needs be done at Houston Advanced Research Center's (HARC) engine lab due to testing schedule availability.

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

- a) An amendment request for Task 5 lab location was submitted to TCEQ for approval.

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

- a) An amendment request for Task 5 is pending for approval by TCEQ.

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 on Task 5.

Date: 1/7/2013

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.*