

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

**Contract Number:** 582-11-13473-2019  
**Grantee:** Robert Bosch LLC  
**Report for the Monthly period:** April 2012 **Date Submitted:** May 10, 2012

**Section I. Accomplishments**

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

- Baseline measurements on engine (KTA 19-M3/4 from Curry Marine) at FEV:
  - Full load curve and propeller curve was performed with this engine on the test bench
  - E5 cycle was conducted and will be used as reference for repeated measurements
  - Complete engine map including all emissions and exhaust temperatures completed
  - Backpressure was simulated with a valve to determine impact on engine and emissions before installation of the after treatment system
  - Measurement of a typical tug boat driving cycle
- Shipping and pre-installation of after treatment system on the test bench completed
- Preparation of wiring and software completed

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

- Phase 2 – Task 1: System Installation and Baseline Measurements
  - 1.4 Baseline Raw Emission Measurement w/o Aftertreatment System
- Phase 2 – Task 2: Final Design Changes, Measurement of Emission Reduction
  - 2.1 Install Aftertreatment System

## **Section II: Problems/Solutions**

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

- a) Before the Cummins engine was bought a full load curve was measured on the engine seller's test bench. An unexpected re-calibration of the fuel pump was needed to meet the given values provided in the Cummins specification (torque, power, fuel consumption).

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

- a) Re-calibration is completed and baseline testing results will be compared with the specification sheet in the next days.

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

- a) Re-calibration is completed and baseline testing results will be compared with the specification sheet in the next days.

## **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*

1. Finalizing the installation of aftertreatment system on test bench
2. Calibration and fundamental investigations of after treatment system

Date: 5/10/12

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*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.*