

**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 January 2011 **Date**
Monthly period: January 2011 **Submitted:** February 10, 2012

Section I. Accomplishments

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

Engine (KTA 19-M3/4 from Curry Marine) selection for dynamometer testing at FEV:

- Discussed, with the subcontractor FEV, engine selection. Out of 13 possible engines selected proper engine for the upcoming dynamometer testing.
- Discussed test plan and boundary conditions for engine/aftertreatment testing at the FEV dynamometer test cell.

Design of aftertreatment system:

- Finalization of aftertreatment design blue-prints for internal sample shop to prepare the aftertreatment system for dynamometer testing at FEV
- CFD simulation and technical discussions with Bosch experts on:
 - whether urea mixer is needed in the aftertreatment system
 - uniformity index (distribution) of ammonia in exhaust gas
 - modeling investigation on potentials of urea deposits formation

Urea tank design:

- Size considerations (approx. 1000 liters for each engine needed).

Other

- Testing of Denox (urea injection) system with modified backflow valve for increased urea demand (for engine's high load operations).
- Procurement of components of aftertreatment system.
- Commencing assembly of aftertreatment system in sample shop with the necessary thermocouples.

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

Phase 1 – Task 2: System Design

- 2.2 Tank Layout
- 2.3 wiring harness
- 2.4 CFD Modeling

Phase 2 – Task 1: System Installation and Baseline Measurements

- Procurement of all aftertreatment components
- Engine selection and purchase

Section II: Problems/Solutions

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

- a) Due to the unexpectedly longer lead-time needed for procuring some aftertreatment components, the start of dynamometer testing was postponed to early March 2012.

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

- a) The start of dynamometer testing was postponed to early March 2012.

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

- a) The start of dynamometer testing was postponed to early March 2012.

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

- Urea tank: face to face meeting with a potential urea tank supplier at end of February 2012.

Date: 2/10/2012

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.