

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

Contract Number: 58211111473264

Grantee: Alternative Motive Power Systems (AMPS)

Report for the Monthly period: May 2013 **Date Submitted:** June 10, 2013

Section I. Accomplishments

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

- Number plates, identification markings, etc. were installed and the locomotive was inspected by the Union Pacific Railroad (UP) prior to being shipped to the test location. Required in order for the UP to transport the unit
- Locomotive shipped to Texas Eastman
- Data Acquisition System (DAS) was installed. DAS enables compilation and evaluation of data over time to enable us to determine if any component or programming changes are required over time and will help us evaluate the effectiveness of those changes
- Locomotive was checked out and put into light switching service prior to testing. Ensures proper function and allows for programming changes and tuning to ensure proper performance prior to load and emissions testing
- Load testing and emissions testing were performed. Emissions “hard data” will allow us to provide “real world” emissions numbers rather than calculated numbers for marketing purposes. With performance/load testing data along with systems data recorded by our DAS, we can accurately extrapolate emissions and fuel consumption values for other configurations of the modular design, i.e. larger battery pack; single generator set; 2,000 horsepower EMD engine for short line use, etc..
- Preliminary operator survey input was gathered. This input will allow us to “fine tune” acceleration and braking ramps as well as operator display screens to suit specific needs of this particular application.

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

- Tasks #3, #4 & #5

Section II: Problems/Solutions

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

- Assembly at the Railserve shop was much slower than anticipated and UP took six days instead of one to two days for delivery to the Eastman test site resulting in a shorter break-in period than anticipated.

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

- Emissions and performance testing tasks had some overlap.

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

- Two AMPS engineers dedicated to the locomotive for successful completion of performance and emissions testing. Performance and emissions testing accomplished.

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 monitoring the locomotive operation and performance by means of operator input and our DAS.
- Make programming modifications as required over time.
- Submit Task #4 & #5 reports along with final report.
- Begin marketing efforts in July 2013.

Date: June 10, 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.*