

**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:** April 2011 **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.*

- Continued programming efforts and continued data acquisition programming. Programming will ensure proper communication between sub-systems and establish control over individual components for proper locomotive function. Data acquisition system will provide very precise feedback. This empirical data will allow us to make minor programming changes to improve locomotive function and efficiency.
- Battery testing at Penn State University has been completed.
  - Low temperature performance could not be obtained from the manufacturer of the absorbed glass mat (AGM) battery, and as a result of our testing we discovered that the low temperature performance of the batteries was far below what we require.
  - AMPS has, as a result, selected the Lithium technology for this locomotive application.
- ATS has begun assemble of traction motor rack and components. Delivery is anticipated the first part of May 2012 for installation in the cab/short-hood “module”.
- Battery pack has been ordered
- Engines have been ordered
- Main generators have been ordered
- Implementing component & component drawing acquisition per schedule and have made significant progress toward incorporating component drawings into our Solid Works 2012 Locomotive Drawings.
- Continued modification of cab/short-hood.
- Operator control stand fabrication has been completed.
- Switches, gauges, throttle, dynamic brake control handle and air system components have been ordered and delivered.
- Axle generator is currently being tested on a Railserve locomotive in Michigan and preliminary data is being examined. We have confirmed that we have much improved signal over anything we can find available on the market. Incorporation of this new “AMPS designed and manufactured” axle generator will result in improved traction control and the elimination of “faults” due to poor signal quality.

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

- Task #2

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

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

- a) No significant problems

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

- a) None

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

- a) None

## **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*

- Continued software development
- Confirm axle generator durability in “real world” application
- Completion of cab/short-hood module in preparation for paint
- Install traction inverter rack assembly in cab/short-hood module
- Design and initial fabrication of long hood
- AMPS will continue ordering required components including air compressor, traction motor blowers, etc.
- Assure that contractor has locomotive deck prepared to receive the cab/short-hood module in June 2012
- Begin rebuild of complete truck assemblies
- Clean fuel tank

Date: May 10, 2012

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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.*