

NTRD Program Disclaimers

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

Contract Number: 582-5-65591-0010

Grantee: Eaton Corporation

Date Submitted: February 10, 2005

Report for the **Monthly** period:

Starting Date Jan 3, 2005 Ending Date Jan 31, 2005

Section I. **Accomplishments** (Please Provide a bulleted list of project accomplishments as well as a description of their importance to the project)

1. **Accomplishment:** Previous period's goal #1 (Determine if one accumulator can be eliminated.) – The analysis showed that one accumulator CANNOT be eliminated and provide adequate performance in all temperature ranges.
Importance: This proposal had the potential of significantly reducing the weight and size of the HLA system.
2. **Accomplishment:** Previous period's goal #2 (Complete FMEAs for the pump/motor, accumulators, and system) – The pump/motor FMEA is complete and the HP accumulator FMEA is 75% complete The system FMEA is 20% complete.
Importance: This document is helpful in product design and used heavily to create a product qualification test plan
3. **Accomplishment:** Previous period's goal #3 (Continue vehicle durability test) - The repaired hardware for the on-vehicle durability test has been reinstalled on the truck. Testing did not resume in January It will resume in February.
Importance: The results of the durability test will give valuable insight into necessary design modifications for the production intent design.
4. **Accomplishment:** Previous period's goal #4 (Select transfer case design and supplier) – A transfer case supplier has offered an initial cost estimate and package size that meet our criteria. We are proceeding to work out the remaining technical details of the design.
Importance: Very important, critical component.
5. **Accomplishment:** The accumulator design is progressing.
 - a. Meetings were held with the supplier to discuss cost and weight. The supplier proposed a new, lower weight design.
 - b. An accumulator qualification test is being written which will be submitted to standards organizations for approval in order to satisfy government regulations
 - c. A test to measure accumulator shell fatigue strength has been started. The test is expected to last for 5 months.
 - d. A test to measure energy storage and efficiency has been set up and will begin within the next few days.
 - e. Preliminary installation drawings were generated for the production style accumulators.**Importance:** Important, critical component.

Implementation Grants Section

Texas Commission on Environmental Quality

- 6. Accomplishment: The vehicle layout continues to be refined. A new configuration was found that takes advantage of the newest proposed accumulator design. This configuration allows more space for the transfer case. Another configuration is now being considered which would be an even cleaner package.
Importance: Necessary input for HLA hardware design decisions.
- 7. Accomplishment: Noise analysis and weight reduction analysis work was done on the pump/motor housing. The proposed improvements are now being added to the design.
Importance: Necessary to decrease weight/cost and properly fit in vehicle.

Indicate which part of the Scope of Work, the above accomplishments are related to:

- 1. SOW 2.1.4.1
- 2. SOW 2.1.3.1
- 3. SOW 2.1.3.1
- 4. SOW 2.1.4.1.2
- 5. SOW 2.1.4.1.1
- 6. SOW 2.1.3.1
- 7. SOW 2.1.4.1

Section II: Problems/Solutions

<p>Problem(s) Identified</p> <p><i>(Please report anticipated or unanticipated problem(s) encountered and its effect on the progress of the project)</i></p>	<p>The pump/motor design needs to be finalized soon to stay on the schedule.</p>
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<p>Proposed Solution(s)</p> <p><i>(Please report any possible solution(s) to the problem(s) that were considered/encountered)</i></p>	<p>The number of people working on the pump/motor design in being increased, which will decrease the time to complete the design.</p>
<p>Action(s) Conducted and Results</p> <p><i>(Please describe the action(s) taken to resolve the problem(s) and its effect)</i></p>	

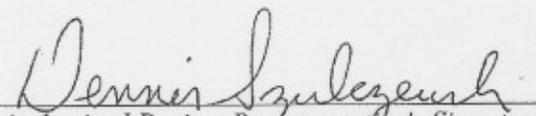
Section III. Goals and Issues for Succeeding Period: *(Please provide a brief description of the goal(s) you hope to realize in the coming period and identify any notable challenges that can be foreseen)*

GOALS:

1. Write initial test plan.
2. Complete FMEAs for accumulators, and system.
3. Continue vehicle durability test.
4. Confirm transfer case design with supplier

Section IV. Commercialization Progress:

In January, Eaton initiated work on a development plan to obtain additional voice of the customer information via the QFD process. QFD-1 is an important component of the PROLaunch process and will ensure that our path to production is appropriately aligned with our customer needs and expectations.


Authorized Project Representative's Signature

Date: 2/10/05

NOTE: *Please attach any additional information that you feel should be a part of your report or that may be required to meet the deliverables requirement for tasks completed during this reporting period*