

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: April 18, 2005

Report for the **Monthly** period:

Starting Date March 1, 2005 Ending Date March 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 (Write initial test plan) – Reliability requirements have been collected. The initial test plan has been started, which identifies the quantity of testing required. More definition is needed in the test plan. This goal will be continued into April.
Importance: The test plan will allow more accurate scheduling and cost estimating of efforts to qualify the product for production.
2. Accomplishment: Previous period's goal #2 (Complete FMEAs for the system, and valves) – Progress was made on the system FMEA. Overall, system and component FMEA's are approximately 65% complete. FMEA work will continue during the next month.
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 vehicle durability test was not resumed in March, due to hardware repairs. The effort will continue in April.
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 (Finish the updated pump/motor design) - The pump/motor design upgrade is making good progress. The bill of material is nearly complete, as is the assembly drawing. One casting is being modified to improve the pump/motor performance in the packaging constraints of the refuse application.
Importance: Necessary to decrease weight/cost and properly fit in vehicle.
5. Accomplishment: Good progress was made on design related issues with the transfer case, including the reliability estimates and the addition of a speed sensor.
Importance: Very important, critical component.
6. Accomplishment: The accumulator design is progressing.
 - a. Weekly telephone meetings were held with the accumulator supplier to discuss designs and working agreements.
 - b. Progress is being made on the engineering standard and test procedures document for the accumulator.Importance: Important, critical component.

7. Accomplishment: A questionnaire was prepared to gather customer information. Three interviews were conducted with end use and OEM customers. Valuable "voice of the customer" information was obtained and documented
Importance: Necessary to set proper design & test goals.

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
5. SOW 2.1.4.1.2
6. SOW 2.1.4.1.1
7. SOW 2.1.1

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>Proposed Solution(s)</p> <p><i>(Please report any possible solution(s) to the problem(s) that were considered/encountered)</i></p>	

Action(s) Conducted and Results	
<i>(Please describe the action(s) taken to resolve the problem(s) and its effect)</i>	

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)*

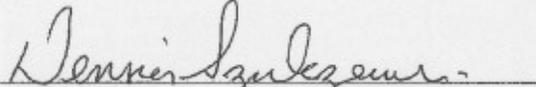
GOALS:

- 1 Add detail to the initial test plan.
2. Complete the FMEAs for the system and valves
3. Continue vehicle durability test.
- 4 Hold a design review for the updated HLA system design, including all the components, and order long lead-time items.

Section IV. Commercialization Progress:

A press released issued in early April announced a \$2.15M award from the Department of Defense (DoD) for the development of the core HLA technology. This DoD sponsored project will evaluate and test the core HLA technology on a smaller vehicle class (14,000 GVW). While NTRD funding facilitates work on Eaton's HLA for Refuse program, the DoD funding offsets the development costs associated with building volume across different vocations in a parallel process. The Army is very excited about the potential of the HLA technology for military vehicles and commercial applications including shuttle buses.

Eaton also identified and prioritized the wants and needs of refuse end users through Voice of the Customer meetings. The customer feedback identified reliability as a high priority. As a result, we will include adequate durability, validation, and in-fleet testing prior to the limited quantity production release in 2007.


Authorized Project Representative's Signature

Date 4/18/05

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