



**University of Wisconsin  
SAE Snowmobile Team  
Glenn R. Bower (Advisor)  
1500 Engineering Drive  
Madison, WI 53703**

May 6, 2010

Richard Davies  
Davies, Craig PTY.  
Box 363  
77 Taras Avenue  
Altona North, Victoria 3025, Australia

Dear Richard,

The University of Wisconsin SAE Clean Snowmobile Team would like to thank you and Davies, Craig for your generous support this past season. For this year's electric snowmobile design our team continued with the proven combination of Delphi's EV1 motor and Milwaukee Tool's V28 batteries. We updated from last year's Fusion chassis to a 2010 Polaris IQ chassis and optimized our battery pack size to 5.46 kW-hr. This combination makes the 2010 Bucky Electric Vehicle (BuckEV) the lightest electric snowmobile UW-Madison has created to date. This marked UW-Madison's third year entering the zero emissions category and the BuckEV continued its tradition of excellence, winning the best design and first place overall for the zero emissions category at the 2010 competition in Houghton, Michigan.

Switching to the 2010 Polaris IQ chassis, this year UW-Madison focused on packaging the BuckEV to produce outstanding performance, while maintaining a sleek exterior design. The 2010 design further optimized driveline efficiency by transitioning from last year's direct chain-drive to a custom designed direct belt drive system. At the 2010 Clean Snowmobile Competition the BuckEV's superior performance was thoroughly proven, winning both the loaded acceleration and the objective handling events. In fact, the BuckEV nearly beat all the sleds (IZ and ZE) at competition in objective handling, narrowly losing to a 2-stroke snowmobile in overall time. Further design details can be viewed in our technical report available at [www.badgersnowmobile.com](http://www.badgersnowmobile.com).

In total, 5 electric snowmobiles from the US and Canada attended CSC 2010 with unique and innovative designs. However, the experience and knowledge of the Madison team paid off as the BuckEV won 6 of the 10 zero emission categories. This success would not have been possible without the generosity and expertise of our sponsors. As a result of everyone's efforts, the BuckEV will make the trip to Greenland for the third year in a row to assist with NSF's arctic research. Our website has the complete competition results.

Thank you very much for supplying us with the discounted electronic booster pump. This pump performed flawlessly for us again at competition this year, preventing our motor and motor controller from overheating. Please feel free to contact us at [grbower@wisc.edu](mailto:grbower@wisc.edu) or [spannbauer@wisc.edu](mailto:spannbauer@wisc.edu) for more information. Otherwise, please contact Glenn Bower at (608) 263-7252 or Shawn Spannbauer at (920) 579-0440.

It has been our pleasure to work with Davies, Craig, and we look forward to working with you in the future. The UW-Madison snowmobile team has already begun planning for next year's competition. The team is looking to further improve performance and range through the use of an upgraded motor controller and an improved battery management system. Ultimately, we will work to improve the future of snowmobiling with a practical, high performance electric snowmobile. GO BADGERS!!!

Sincerely,

Glenn R. Bower  
Faculty Advisor

Ethan Brodsky  
Team Advisor

Matt Schmitz  
Team Leader

Jake Mauermann  
Team Leader