



Advanced Vehicle Research & Testing

29 July 2011

Mr. Bob Kiss, Mayor
Room 34, City Hall
Burlington, VT 05401

Dear Mayor Kiss:

I write on behalf of the EVERmont Board to bring closure to the "Wind to Wheels" Sustainable Hydrogen Fueling project. With discussions regarding the final disposition of the H2 facility reaching a conclusion, it is both timely and appropriate to recap the project and its accomplishments as well as frame our current perspective on the future of the facility itself.

First, we express our thanks to the city for its support, engagement, and cooperation throughout this initiative: from project design, construction, operations and closure, the city has demonstrated patience, thoughtfulness, and commitment. In short, the project would not have been successful without such a strong level of involvement. We particularly want to acknowledge the Department of Public Works (DPW) - Steve Goodkind, Dan Bradley, and Norm Baldwin - all of whom invested considerable time and energy in turning the concept into a physical reality.

Project Synopsis

The Wind to Wheels project started in 2004 under an award provided by the U.S. Department of Energy (DOE) to EVERmont. The award was made possible in large part through the assistance from the office of Senator Sanders. With this award and with the city's cooperation, EVERmont constructed a Hydrogen Fueling facility on DPW property along Pine Street. The project kick-off took place in the summer of 2005 after completion of construction. The project had a life span of three years and concluded at the end of 2007. Total project costs amounted to about \$2M over this time period with the DOE award provided on a 50:50 match basis. It is also worthy of note that this was the first such hydrogen fueling station built in New England.

Wind to Wheels was predicated on demonstrating the creation of sustainable hydrogen for transportation applications. It had three primary goals:

1. Develop advanced PEM (polymer electrolyte membrane) electrolysis fueling station technology;
2. Build and test a validation system in Vermont that utilizes renewable electricity and is capable of providing hydrogen fuel to vehicles;
3. Procure a hydrogen-fueled vehicle for testing and validation of the station and system.

Although there were notable “hiccups” along the way (unexpected station shut-downs, vehicle range issues, etc.) the project readily accomplished its goals and was highly successful in documenting, demonstrating, and validating that hydrogen could be generated using local renewable energy and used to fuel transportation. Equally important, the lessons learned along the way did contribute significantly to advancement in hydrogen production, storage, and dispensing technologies in cold weather settings.

Station Limbo: Project Conclusion (Dec. 2007) to July 2010

Near the planned calendar end of the project (December 2007), Murphy’s Law came into play: the H2 station become inoperable for what as yet are undetermined reasons. EVERmont believes that most likely the problem exists in the management software protocols governing the various operations at the station. At that time we did not have the funds to ascertain the specific nature of the problem, attempt a repair, and provide adequate and ongoing maintenance for the facility beyond that point. Since early 2008, however, EVERmont has pursued a number of other external funding and facility management options but to date these efforts have not proven fruitful. We should acknowledge the patience and support of the DPW during this frustrating period of time. In late winter of 2009/2010, DPW informed EVERmont that it would like to turn off the services to the facility (water, electric), and we jointly agreed that it made sense to explore the option of removing the facility altogether.

Seeking to address this situation, EVERmont worked closely with the city and project vendors to re-examine options for either repairing or upgrading the plant. With strong consensus we concluded that neither option was really viable at this time:

- repairing the plant, at uncertain cost, would be akin to “fixing a 386 computer” given the significant advances in this technology since the plant was constructed (in fact, the lessons learned from this project helped spur those advances), and annual operating, maintenance, and upkeep costs would continue to remain an issue;
- the cost to fully upgrade the facility (at least \$200,000 and up) is prohibitive particularly considering that the only near-term end use for the upgrade would be the one EVERmont vehicle (converted Prius, also antiquated).

Concurrent with the re-examination this past spring, EVERmont began a general exploration to see if there might be interest in the facility elsewhere. It was at this point that we received an inquiry from the Ohio Aerospace Institute (OAI) based in Cleveland that led eventually to their purchase offer in July 2010. With a purchase offer in hand, we then pursued “disposition” clearance from DOE (a project requirement) and as you know, EVERmont just received such clearance a year later. Fortunately, OAI remains engaged.

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Looking Forward

At this juncture, EVERmont is very pleased that the facility could be transferred to OAI. OAI is a 501(c) (3) not-for-profit organization with a mission "to build Ohio's aerospace economy through research, technology development, education and training, and collaboration and information exchange." In this context, EVERmont considers OAI very compatible with its own mission and goals. The facility would be used to provide hydrogen for a fuel cell bus demonstration project and will serve continuously as a prominent display of the hydrogen economy via the Great Lakes Science Center and the NASA Visitor's Center in Cleveland.

In short, OAI has the resources, in-house capacity, and intended end-users to put the EVERmont H2 facility to its "highest and best" use. The EVERmont Board recognized this and at a recent special meeting unanimously endorsed the option to transfer the facility. We appreciate that through our discussions over this past year your office and DPW concur with this proposed transfer. We also are pleased that you will keep intact the concrete pad and services on site as "project ready" for other alternative fueling and vehicle options; EVERmont would be pleased to partner with you in this regard. We will also transfer the pad to the city and provide a site "contingency fund" that could be used to dismantle the existing pad at a future date or to support an advanced transportation project in which the city wanted to engage.

Again, EVERmont thanks you and the city for the support through the project and during the recent deliberations concerning the facility's final disposition. With final disposition approval and instructions from DOE, we are pleased to again move this transfer forward. We will continue keep you informed throughout this process and welcome your input and advice.

Sincerely,



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Cc: Steve Goodkind, Norm Baldwin, DPW
Jeff Munger, Office of Senator Bernie Sanders