

**Fox Valley Electric Auto Association  
PO Box 214  
Wheaton, IL 60187-0214**

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## **November 2011 FVEAA Newsletter**

**The FVEAA is a Not-For-Profit Illinois Corporation and the Chicago Area Chapter of The Electric Auto Association**

### **Next Meeting**

**Friday, November 18th, 2011 - 7:00PM (doors open at 6:30PM) at  
Packer Engineering, 1976 N Washington St, Naperville, IL 60563**

**Packer Engineering is the on East side of Washington St, just North of the I-88 Tollway (North of Diehl, South of Warrenville Rd). Turn off of Washington onto Bighorn at the Packer Engineering sign, then take the first right into Packer Engineering and then an immediate left. Park in the lot between the buildings. 1976 is the new building up the hill. Enter the building in the middle of the North side.**

### **Agenda**

- Call To Order
- Old Business
- Survey Results
- Committee Reports
- New Business
- George Hamstra, Hunter, and Hanna on the EV Convention EVCCON
- Intermission: Refreshments, Networking and EV Viewing.
- Program:  
Heidi Lubin, CEO of HEVT Hybrid Electric Vehicle Technology, LLC

### **President's Words**

*Bruce Jones*

Well the survey results are in from the last meeting. I learned long ago that one of the first and most important things to do as the head of a group is to find out who your members

are, and what they personally bring to the table. Our resources. And from a marketing perspective find out what they want and then deliver it. So Dave Aarvold has compiled the information and here is the response from 14 of you for question 1.

1. What topic would you like to see presented at an upcoming FVEAA meeting?

- Ed Meyer explaining motor balancing
- Todd Martin on batteries
- John Emde on the accelerator control pot box
- Rich Carroll on safety
- George Hamstra on Warp Motors basics
- Ted Lowe on EV improvements and electricity math
- New Battery technology (x2)
- Support financing availability
- Hybrid electrical systems
- DC regenerative brakes
- Opportunity charging updates
- Basic elements and how to use them to build an EV

Since only 10% of our membership responded, this may not be a representative sample, but we'll take it! Thanks to everyone who provided a response. Next month we'll cover the other parts of the survey results including what members like the most and what needs improvement.

#### Charging Station Incentives Running Out!

The current 30% tax credit incentives run out by end of the year for installation of an electric vehicle charger. So if you are installing a charging station now is the time before the incentives expire and with budget cuts looming it's not likely the incentives will be extended beyond Dec. 31st.

#### Plug-in Electric Vehicle and Infrastructure Grants

Car sharing organizations located and operating in Illinois may be eligible for grants of up to 25% of qualifying project costs, including the cost of purchasing new electric vehicles and building charging infrastructure. Vehicles must be predominately powered by electricity, be purchased from an Illinois dealership, and remain registered and in service with the grantee in Illinois for at least five years after purchase. Vehicles purchased with grant funds are not eligible for rebates under the Illinois Alternate Fuels Rebate Program. Grant application and reporting requirements apply. The Illinois Environmental Protection Agency will administer the grant program through Fiscal Year 2013. (Reference House Bill 2903, 2011, and 415 Illinois Compiled Statutes 120/30)

<http://www.afdc.energy.gov/afdc/laws/law/IL/9405>

Sincerely, Bruce

#### **Rich's Ramblings**

*Rich Carroll*

In my mailbox as I started to write for the newsletter was Dio Vesselinov's email about a recent Volt fire. A fire earlier this year had consumed another Volt, and a separate fire had consumed one of the most visible EV conversions, the "LincVolt." Some members of the press started asking if electric vehicles are safe. Before you make a decision, let's look at the facts.

The LincVolt is a 2.5 ton, 19.5 foot long vehicle built from a 1959 Lincoln by musician Neil Young. Neil's stated goal of the car is "to inspire a generation by creating a clean automobile propulsion technology that serves the needs of the 21st Century and delivers performance that is a reflection of the driver's spirit." In November 2010, a fire started, reportedly in the charging system while the vehicle was charging in Young's warehouse. The car was powered before the fire by a large number of Thundersky LiFePO4 cells. Young's site states, "We are still investigating the exact cause although it appears to be an operator error that occurred in an untested part of the charging system." There appears to be no evidence whatsoever that the various components are a fire hazard. Neil is rebuilding, now with A123 cells.

The Volt that did burn during charging in Barkhamstead, Connecticut garage was plugged in next to a Suzuki Samari converted by Storm Connors, the Samari's owner. The fire occurred in April 2011, and destroyed the vehicles and the garage they were charging in. The cause has been investigated, and the fire chief said a month after the fire, that "It wasn't the cars." Under questioning the fire investigator (the Fire Chief in the small town) mentioned that it could have been the wiring in the garage or some other incendiary source.

The vehicle owner writes a blog about electric cars, and he said, "*Tis true that the Volt was suspected of causing the fire. So was the Suzuki, the electrical wiring, candles, discarded ashes, oily rags and any other possible ignition source. We have been reviewed by the Fire marshal, the state fire marshal, the CT State Police forensics group, the National auto safety board, 5 engineers from GM; all of whom seem pretty sure that the Volt did not cause the fire. A state electrical investigator spent 4 hours examining the wiring to the Suzuki charger and gave it a clean bill of health.*" There were some reports of a second fire, five days later, in the batteries in the Volt, but with the car a total loss, and the batteries damaged, this is may not be a concern for Volt and EV owners

The Volt that caught fire in Wisconsin had been subjected to several crash tests by an independent agency that contracts it's services to NHTSA. It was subjected to a "pole test" which simulates a 20 MPH side impact, and after that had been rolled over into various positions to test for leaks that occurred in the crash. (The Volt uses liquid to heat and cool the battery pack when needed.) Subsequent to this and other tests, the Volt received the five star crash rating, the highest available. When the contractor had finished the testing, the vehicle was moved to their scrap yard, where it was unattended after the gasoline tank was drained. Investigators did not follow the official GM protocol for storage after crash testing, which involves de-energizing the batteries. After almost a month of storage, the car caught fire while unattended. It appears that the normally inert battery coolant (Normally a liquid) crystallized in the Wisconsin cold, and these crystals caused a short circuit, then a fire. The fire occurred more than three weeks after the side crash test. While not reported in the media, the fire occurred at the MGA facility on Warren Road in Burlington, Wisconsin. I have a good friend who works there as a test track driver, but she was not aware of the situation. Laura works at MGA as a Durability Driver, kind of her dream job. For many years she has lived in Twin Lakes, Wisconsin, and commuted to a job in Mt. Prospect. She saw the test driver job, noting it was near her home, and thought she would never qualify, but applied anyway. On that particular resume, she added that she had several years of ice racing and ice slaloms in a Corvair. Apparently MGA read the resume carefully, and called her for that reason. Laura has been a Corvair enthusiast for 35 years. She was probably out on the test area while this happened; she does not know about it.

While there should be caution for serious consequences after an EV accident, blaming a car for a fire after a test-lab experiment caused incident seems like quite a stretch, especially if the test procedure protocol for post test de-energizing was not followed. Similarly, the Volt in Connecticut which caught fire five days after a heavy loss, was not de-energized.

I would think that as a part of the Emergency Response protocols that are followed after an accident or damage, an important part would be to remove the remaining energy before storage. I'm afraid that failing to generate a comprehensive plan to de-energize batteries after an incident will cause numerous problems.

We certainly haven't heard the last of this.

## **November Program**

*Bruce Jones*

This month we have two excellent presentations. Heidi Lubin, CEO of Hybrid Electric Vehicle Technologies (HEVT) will present on advanced technology patents for electric vehicles. They have around a dozen patents and/or patents in process on various aspects of EVs from a new Switched Reluctance motor design, that does not use rare earth metals like neodymium in typical electric motors, to a serial /

parallel drive train and bi-directional Charger and DC/DC converter. HEVT is involved with several projects, and looking to license their technology. Welcome!

George Hamstra, our good supporter from NetGain will be here with daughter Hanna, and son Hunter to talk about what they saw at th EV conference EVCCON. This was a program put together in late September by Jack Rickard in Cape Girardeau, Missouri for people in the EV conversion business and adjunct businesses. We always enjoy hearing from George and family so I'm sure this will be an engaging session.

## **Meeting Minutes - October 2011**

*Dave Aarvold*

The meeting was called to order at 701 with special guests Ken Packer and Ed Meyer in attendance.

Our new president Bruce Jones had the first time attendees introduce themselves. An article from 1984 written by John Emde was reviewed for current applications and may become a regular feature. Todd Martin presented a new cover by Leviton for 'live' wire extensoin cords for protection from the elements and reported that the Lombard wants a charging station at the train station and Todd will plan a presentation for them in January. Todd Dore gave the treasury report. George Vegara reported that he was waiting on a decision from the board on moving forward with his educational program. Ted Lowe reminded everyone that they will be newsletter penalized if they do not pay dues in a timely fashoin. Rich Carroll had a flyer for several EVs that are up for sale and presented a trailer for a 'What is the Electric Car' movie. A member of the audience asked for feedback on a possible charge station network along the lakefront bikepath in Chicago.

Nilo's talk on the Philippine program to electrify 3.5 million trike taxis and 4.2 million mini buses was hopeful at best. They have started to test the trike version and have built the mini bus version and are ramping up tests and preparing for production, but the economy has slowed progress there too and there is much still to do. The business model is for the private sector to build and the government to insure that loan money will be available. Thier goal for 2012 is 20,000 units and a charging infrastructure.

Rich Carroll also presented a film on the electrifying of a 1938 heavy duty Ford delivery truck by boy scouts and local high school kids. Jphn Hodnefield built the program around a weekend of merit badge accomplishments. The film was produced by students and written by students and for the most part starred students. The program managed to receive a Pepsi challenge grant and was enjoyed by all at the former Fort Snelling. They were building a 'rat' rod that provided a budget for critical components only-no paint, throw cloth for the interior, sheet metal dash etc.

Miodrag gave an excellent technical presentation on how the electricity flows as power is applied to a motor. He has built several controllers for motors and although his talk went over some heads of those attending, the long timers ALL got a little something out of his presentation ( I finally got what back EMF is ). His explanation was geared around the electron path or flow and what several of the controller components did to change the pathway. "The controller is a regulated conduit between the battery pack and the motor." During his talk he also explained the function and use of diodes in the circuit and why they are located where they are. Thanks, D.A.

## **Meeting Pictures - October 2011**

*Bruce Jones*



**Nilo Tamoria, guest speaker from the Philippines**



**Miodrag Zubic presents a basic lesson on Controllers**



**Ted Lowe's Chevy S-10 (or shall we call it a "Lowe Rider?")**

**Above Left:** Nilo Tamoria, our guest from the Philippines talked about electric vehicles, which are used for small commercial vehicles in the Philippines. He talked extensively about future governmental plans for EV's

**Above:** Miodrag Zubic talked on controllers, and gave an excellent basic lesson in function and in design for the meeting.

**Left:** Ted Lowe's S-10 was again displayed inside at Packer Engineering.

**Membership Form**

Ted Lowe

**FVEAA Membership Application Form**

Name: \_\_\_\_\_  
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 City, State Zipcode: \_\_\_\_\_  
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How did you hear about the FVEAA ? \_\_\_\_\_

Member Types and Annual Dues (Please circle one)		Newsletter Delivery Types (Please circle one)	
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Please make your check payable to "FVEAA" and postal mail it with this membership application form to:

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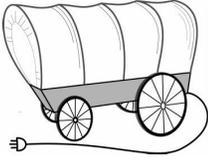
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