

# FOX VALLEY ELECTRIC AUTO ASSOCIATION NEWSLETTER FOR JULY 2002

**NEXT MEETING: Friday, JULY 19 at 7:30 PM in the Triton INDUSTRIAL CAREERS BUILDING, (East Campus), Room 108**

**DISCUSSION TOPICS: 1. The Elmhurst CoolCars Show. The seminar status. 3. Why do you have, or want an electric car? 4. Open Topics**

## MEMBERSHIP INFORMATION

Any person interested in electric cars is welcome to join the FVEAA. The cost for a full year's dues is \$ 20 which will entitle members to receive our monthly Newsletter that contains useful information about electric car conversions, construction, news, policies, and events. Membership is not required to attend our meetings. Dues for NEW members joining in August will be \$6.

To obtain info about the FVEAA you may contact either Past-President Ken Woods or President Shafer

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## PRESEZ

At our meeting it was suggested that we should discuss the motives behind the desire to have an electric car. This is a good time. I believe the reasons for electric car interest are not simple. Some persons are dedicated environmentalists who like opportunity to use a variety of primary fuel sources to substitute for the emissions produced by gasoline. Some, like myself, experienced the aggravation of the 1970's gasoline lines. Some want to have a unique vehicle that only one in 1/2 million persons in the US has. Some enjoy the technical challenge of doing a conversion project. There are other reasons that I expect will be stated in the meeting.

There are few electric car articles so this issue contains a copy of the testimony I prepared on behalf of the FVEAA for the Naperville hearing on fuel cells cars and the status of the rebate program. I will report on the hearing that was also attended by Ken Woods and Ray DeBoth.

Received an e-mail from Woodie Bessler saying the e-mail version of the monthly newsletter is fine for his purposes. He asks to be removed from the snail mail list, pointing out this will be less costly for the FVEAA. Our newsletter postage rate increased to 37 cents this month. Each envelope costs an additional 2 cents, so this move reduces our newsletter costs by \$ 4.68 per member. We have to print a hundred copies of the newsletter to get the duplicating price break. We need 50 members @ \$ 20 to sustain our organization.

If there are other members satisfied with your e-mail version please let me know so we can reduce our annual newsletter cost.

BILL

## MINUTES OF THE JUNE 17<sup>TH</sup> MEETING

The meeting at Triton was called to order by President Shafer at 7:35 PM. Thirteen members and one guest attended. The May minutes were approved as published. Treasurer Corel reported \$ 2640.62 in the checking account and no change in the Savings account. His report was accepted.

President Shafer reported that Triton Trustee Kubiczky, a resident of Riverside, will drive the Ranger in that community's Independence Day Parade. He stated the car has been in dead storage for six weeks, probably with no battery charging. Bill will take care of that task before the parade.

The subject of FVEAA appearance at car shows was discussed. The show in Elmhurst on Wed. August 17<sup>th</sup> at 5:30 PM will feature custom-modified cars, a category that fits our conversions. Elmhurst resident and FVEAA member Woody Bessler was selected to contact the CityCenter organization that sponsors the show and make arrangements for opportunity recharging cars while they are on exhibit.

The reply received from Elmhurst is not encouraging. They are not ready for electric cars. DJ's use the only outlets available for the PA system. Further discussions with the CityCenter group will be held to make arrangements. There are three or four FVEAA cars within 10 miles of Elmhurst that are able to make a round trip without recharging.

President Shafer read an e-mail received from Darwin Burkhart of the Illinois EPA on the subject of conversion rebates. The document is included on the next page is self-explanatory.

John Emde noted that title change and securing EV plates are likely to take time. EV plates are non-standard and require special handling. Two types of plates further complicate the situation. The first type of plate is a 2-3 digit number (137 EL). This type is issued for vehicles having a top speed of less than 45 mph. The second type is (A 137 EL) used for vehicles that have a top speed capable of legally operating on expressways that have a minimum 45-mph requirement.

Member George Gladic is having trouble with the department of Motor Vehicles. He purchased the Nissan conversion from Member Ed Meyer and it had a A-plate. When he applied for 2002-3 plate he was sent one without the A-prefix. The person handling non-standard plates in Springfield is:

Dan Wright  
Non-Standard Plate Section  
(217) 785-1697

Member Todd Dore reported the person he dealt with in getting plates for his conversion was very helpful. Others have not had the same experience.

Members converting cars reported no problems requiring discussion at the meeting. John Emde reported he is helping with three of the five conversions under way; Tim Moore, Todd Dore, Paul Harris, Dale Corel, and John's Ford *Ranger*.

The meeting was adjourned at 9:50 PM.

Submitted by substitute Todd Dore  
And past Secretary Dick Ness.

## **Concerning the future of the Illinois EPA EV conversion rebate program**

Thank you for continuing to send me your newsletter. It is one of the few newsletters that I receive and READ.

I wanted to clarify your editorial on the EV conversions and our Rebate Program. The Alternate Fuels Rebate Program continues until the end of this year. As long as a rebate application is received by December 31, 2002, your members would remain eligible for a rebate. We have two rebate issuance cycles per year, at the end of June (for those applications received from January through June) and at the end of December (for those applications received from July through December). Therefore, your members have until the end of the year to finish their conversions, and do not have to work 24 hours a day to get them done by the end of this month. However, if the job is completed soon and the application is sent to us by the end of this month, then they will catch this rebate cycle and their checks should come by August. If it's after that, then they'll have to wait until February.

As far as the future of the Rebate Program, the state funding for the program ends on June 30. But we can still collect applications and issue rebates through the end of this year as long as funds are available. Currently, there is well over \$1 Million in the budget, so we do not anticipate any funding shortages through next December. However, there is no guarantee. We do know of several others who are planning to purchase or convert vehicles throughout the year to take advantage of the Rebate Program, so we may see a significant increase in the number of applications. But, at this time, I still have faith that the funding will be sufficient to cover all of these, barring any unforeseen legislative action or a higher than expected demand. Again, we're confident at this time, but we cannot guarantee funding.

Also, House Bill 2 passed the House and the Senate at the end of May. It now goes to the Governor for signature. HB 2 would essentially extend the Rebate Program indefinitely, with no sunset. It would also provide some tax credits for using alternative fuels, infrastructure funding, and a marketing/education campaign. You are welcome to read the bill on-line. You can find it somewhere at [www.state.il.us](http://www.state.il.us). Look under the General Assembly or "Bills" and you should be able to find it.

One problem with HB 2 is that the funding source is not definite. Instead of guaranteed funding like we've enjoyed for the past three years, it stipulates that General Revenue should be the main source of funding, if and when the state can afford it. Well, right now, the State cannot afford it. In addition, General Revenue and the programs it funds are debated in the General Assembly year after year when budget time comes up. This means that it could get funding in some years, and not in others. And the amount of funding, if any, depends on how important it is to our representatives and their constituents. Funding is opened up to foundations, grants, corporate donations, wills, etc. It is not limited to the State providing money.

In a nutshell, the good news is that the Rebate Program may continue beyond this year if the Governor signs the bill. The bad news is that funding will be shaky, depending on good times vs. bad and how much of a priority it is to the members of the General Assembly year after year. In addition, my job is to try and find foundation funding, grants, and donors of all kinds. I hope that I don't have to sell candy bars, magazine subscriptions, or pizzas to make this work. If so, I know that the FVEAA will be my first customers :-)

That's all I have to report. Thanks again.

Darwin Burkhart

June 19, 2002

## FROM OTHER EV NEWSLETTERS AND ARTICLES AFFECTING EV'S

**DEVC, the Denver Group**, in their June Newsletter, reports that pulse charging of flooded lead-acid batteries does seem to reduce sulfation. Isaac Davenport of Kinetek Systems, 5506 Central Avenue in Boulder CO 86301 (303) 444-8646, e-mail [Isaac@kineteksystems.com](mailto:Isaac@kineteksystems.com) has tested the sulfator, a battery-conditioning unit. It was purchased from Abraham Solar.

There were several articles concerning hybrids. Toyota has sold 103,00 Prius since its introduction. The pending expiration of federal tax credits for hybrids from American Auto Companies is likely to benefit Honda and Toyota.

The issue also had a complete listing of all vehicles participating in the *Tour de Sol* event this year. (Editor's opinion, with more vehicles entered in the hybrid class than battery-type EVs, the decade-only event is losing much of its relevance to electric vehicles.)

**The EEVC June Newsletter from the Eastern Group** had an account of EEVC participation in the *Tour de Sol* with the familiar conversion made by Cinnamonson High School converted Escort.

Boyertown was the site of a joint meeting of EEVC and the Washington (DC) group, EVA/DC. The featured speaker was Bob Beaumont; head of the *CitiCar* EV produced in the late 70's. Before the *CitiCar*, Bob was a Chrysler dealer. When a Michigan State Trooper managed to get the *CitiCar* banned from the roads, Bob took the dramatic step of whacking the *CitiCar* with a baseball bat with no effect on the ABS body. He then offered to do the same with the trooper's conventional vehicle. The ban was dropped. Bob predicted that when China and other third-world countries begin to use cars, the demand and price of oil could rise by 66%.

**EV Circuit, the June Newsletter from the Ottawa Group**, featured the results of a club-sponsored Electrathon. Thirteen student-built vehicles competed. Five of the teams completed 60 laps or more on the course in the one-hour time allotted.

The issue also had an account of the one-prestigious EXIDE Corporation, a producer of lead-acid batteries founded in 1901. In the mid-a980's it became the world's largest battery producer, by building the cheapest battery. The profit margin on each Die Hard produced for Sears was so low that they had to build 4.5-million units to gain the same profit as they would selling one-fifth the same number of units to other customers. The company also expanded by buying other companies, both domestic and European. They were caught selling used batteries as new by the Florida Attorney General and after that the company collapsed.

The Canadian Government is proposing tough new auto pollution regulations for 2003. SUVs will be classed as cars rather than trucks. Big cars will be allowed more emissions than small cars. It will cost the Canadian Government \$ 48-million to implement the new regulations.

The issue reports that a California judge has suspended the 2001 Zero Emission regulations that would require a quota of electric vehicles to be sold.

Sign of the times, there are beginning to be "efficiency races" for hybrid cars.

**FOX VALLEY ELECTRIC AUTO ASSOCIATION (FVEAA) INC.**  
**Testimony by William H. Shafer at the public hearing on Fuel Cell Cars**

Illinois Congresswoman Judy Biggest of the Illinois 13<sup>th</sup> District, a member of the House Science Committee and the subcommittee on Energy, conducted a public hearing on Fuel Cells in Naperville on Monday, June 24<sup>th</sup>. The following was prepared for that meeting. Testimony and questions by the two House members directed to invited organizations consumed the entire time. Past President Ken Woods, a constituent of Biggest, gave her a copy and requested that it be made part of the record.

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All the hype about fuel cell cars should be greeted with considerable skepticism. I believe the *FreedomCAR* Federal program to develop these vehicles is flawed. Consider the following:

Catalyst cost. The Los Alamos Lab recently announced the amount of platinum catalyst for a fuel cell has been reduced from 0.5 to 0.2 grams per 1 kW (peak) of cell power rating. The commodity price for this metal is \$19/gram. Catalyst material cost will be \$4/kW. The Institute of Gas Technology demonstrated a reduction in separator plate manufacturing cost to \$10/kW. Fuel cell cost goal is an unrealistic \$12/kW.

Fuel Source Most hydrogen is locked up in seawater. Breaking the water molecule bond requires an energy input. A study of electrolysis employing solar cells found the process would produce hydrogen equivalent to a gasoline cost of \$46/gallon. Hydrogen extraction using steam reforming or burning fossil fuels to electrolytically produce the gas it will be a loser. Extracting hydrogen from natural gas is likely but will divert domestic supplies already experiencing increased demand for the newly built gas-powered electricity generating plants. These have long-term fuel supply contracts. The National Petroleum Council estimates that that by 2010 gas-fired new generation will total 110,000 megawatts.

Where will homeowners go for future gas heating? When push comes to shove, there are more homeowner voters than there are votes from industrial gas users and the Carter energy policy that reserved natural gas for home heating may be reinstated by the Congress.

Hydrogen storage. Electrochemically storing electric energy in golf cart batteries costs \$70/kWh. I doubt that hydrogen storage will be 14 times cheaper. Hydrogen can be stored as a gas at 2000 psi. It takes a lot of capital investment and energy to compress the gas to this level. Compression energy is lost when the gas is throttled to cell pressure levels. The gas can be stored in a hydride, but once again energy is required to extract it from the storage medium. Hydrogen can be stored cryogenically. This option is not only energy intensive but it also presents an unacceptable consumer product hazard.

In my opinion, fuel cells will not solve the problems of decline in petroleum reserves or the accumulation of combustion by products in the atmosphere. These are two issues the Congress has yet to effectively address. In 100 years the world has consumed half of the total supply of oil. At present rates of use half of the remaining will be gone by 2050. The current policy of increased drilling is not a valid long-term remedy. This is an issue that my grandchildren will certainly have to deal with. We should start now.

Iceland is the one place in the world where a hydrogen economy will work. They have ready access to enormous quantities of geothermal energy. Less than 1% of it now produces the Island's electricity.

FVEAA members, as well as those in similar organizations around the country, have accumulated years of experience with using cast-off cars they have converted to electric power. They have learned how to effectively use their limited-range vehicles for short-trip driving that makes up over 70% of all car trips.

These vehicles give their owners a *choice of fuels*. Anything that generates electricity; coal, nuclear, hydro, solar, wind or biomass can be used. The cars our members use are 71% nuclear powered according to last year's Environmental Disclosure Statement by ComEd. We have found our cars use about 0.5 kWh of electric energy for one mile of travel in urban areas. This is the heat equivalent of 24 mpg when the efficiency of thermal generation is considered.

### Recommendations

Reduce the scale of the present FreedomCar Program. Limit it to fundamental investigations. Require first a life-cycle energy study. Eliminate commercial development of fuel cell hardware.

2. Review US Energy Policy. Increased drilling is not the long-range answer for the continued depletion of oil and gas reserves. The world's storehouse of oil and coal was provided by the capture of the sun's energy by geological processes over long time periods. One of my college professors observed, sixty years ago, that the ballgame is over when the energy to extract and use one pound of coal exceeds the 12,000 Btu that pound contains.

3. Establish programs that can change the present perception of car use. Today's car is an all-purpose vehicle. This causes rejection of a limited-capacity or limited range car. Think, instead, of two cars in the driveway. One used for short-range trips with limited passenger and cargo capacity. The second if for the rest of transportation tasks. This choice is similar to tools in a toolbox. When you want to drive a nail you don't choose a screwdriver. A specialized, energy-efficient, car with a choice of fuels is best suited for most driving. It doesn't require a 4000 pound car to carry a 150 pound driver to the grocery store.

We invite interested persons to log on to our website [www.fveaa.org](http://www.fveaa.org) and click on Member's cars – Doug Mather's Fiero to see how he uses solar cells and a converted car for his daily work commute. Bill Shafer's Mazda RX-7 site provides an economic analysis of using that car for short-trip driving. Ted Lowe's Chevy S-10 site provides links to many converted vehicles around the country.

### The Author

William H. Shafer graduated from Iowa State University with a degree in electrical engineering. He spent his working career in various engineering, supervisory and management positions at Commonwealth Edison, retiring from the Research Staff. He then was elected and served three terms as the Oak Park Township Assessor. He is the President of the Fox Valley Electric Auto Association; a not-for-profit organization formed 28 years ago following the 1973 oil crisis. He built his first conversion in 1975, vowing never again to get caught in a gasoline line. It was used for 15 years when terminal structural rust sent it to the crusher. He replaced it in 1991 with a converted Mazda RX-7, used for the past 11 years for short trip driving around River Forest.

June 22, 2002