

FOX VALLEY ELECTRIC AUTO ASSOCIATION NEWSLETTER FOR December 2002

**NEXT MEETING: Friday, December 20th at 7:30 PM in the Triton
INDUSTRIAL CAREER BUILDING, (East Campus), Room 108**

DISCUSSION TOPICS: 1. The World of Wheels exhibition Jan 31-Feb 2nd. 2. EAA affiliation.

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 January will be \$ 18.

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

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PRESEZ

GM has withdrawn EV-1 leases in a further contraction of Detroit commitment to EVs. It is hard to find articles about electric vehicles these days. There are articles about hybrids that rely on gasoline and use the fuel more efficiently than the conventional system and fuel cells.

EV interest is likely to remain a very specialized hobby until there is some event involving gasoline supply or price. The last time this happened was in 1978. The FVEAA had several hundred inquiries about our activities. The best insurance against being affected by this situation is to start your conversion project.

Over the years EV conversions have settled on a system using a series-wound DC motor, a DC chopper for speed control, and lead-acid batteries that are marginally better than the ones used 25 years ago. The electrical system is a known technology. The great advantage of a conversion is that you will have a vehicle that offers a fuel *choice*, a car that is adequate for a daily commute, shopping trips, and other short-range driving. tasks.

There remains the need for more plug-in opportunities. These will make an EV more useful. In my opinion EV groups should abandon further efforts to force auto manufacturers to build electric vehicles by special legislation or incentives. We should redirect our attention to installation of plug-in facilities at shopping centers, schools, parking garages, and other activity centers.

It irritates me when Honda advertises their hybrid saying, "You don't have to plug it in", a job that takes about 10 seconds. We should "We have to spend time at a gas pump".

BILL

Minutes of the November 19th Meeting

The meeting at Triton College was called to order by President Shafer at 7:30pm after two Escorts and Peter Hartel's Geo Metro were plugged in for opportunity charging. 16 members attended. Minutes were approved.

The president, after reading the list of officers and director that was listed in the October newsletter, asked for a motion to approve the slate. There were no nominations from the floor. A motion was made, seconded and adopted to unanimously elect the recommended slate. The officers and directors were thanked.

Officers elected are:

President – Bill Shafer

Treasurer – Dale Corel

Secretary – Tim Moore

Directors - John Emde, Rob Glowacki, Steve Grushas, & Ed Meyer.

Kevin announced that he will enter the Triton Ranger and the Dragster in the World of Wheels show. The event will be at McCormick Place Jan 31-Feb2, 03. Ray Oviyach will be asked to get Triton's permission to use the Ranger and get it to McCormick Place. We need volunteer FVEAA members to prepare the Ranger for exhibit and also to man the display.

Bill reported that he gets continued requests from The National EAA to become affiliated with that group. To qualify there must be five FVEAA members who are also EAA members. Two of these must be FVEAA officers. He noted an EAA Membership costs \$37.

There was a discussion about the benefits of affiliation. It will provide links to and from the EAA website, better access for information about the FVEAA, identify us as Chicago-based group and the potential addition of present Chicago-area EAA members to the FVEAA. Kevin Zak, Peter Hartel, & George Krajanovich have agreed to become EAA members. Bill is a member, so one other officer must join the EAA. Affiliation will again be a discussion subject at the December meeting.

The next item discussed was a possible \$5 dues reduction for members who voluntarily elect for e-mail only delivery of the monthly newsletter. A motion was made, seconded, and unanimously adopted to keep the dues at the present \$20 level, noting that members who receive only the e-mail version will each be contributing about \$8 of their dues for FVEAA activities other than the newsletter cost.

The president welcomed Dr. Matt Remec as a new member. He asked Member Dave Lewis from Byron to describe his frame-off rehab of a Chevy S-10 pickup and conversion. He noted that when the conversion is parked at the Byron Station, where he works, the car will be 100% nuclear-powered. Member Peter Hartel told of his problems with his Battery Automated Transportation (BAT) Geo Metro which he bought from an Oklahoma party. BAT is out of the conversion business and was no help.

Member Ray DeBoth described a nano technology that uses carbon to replace copper. Kevin Zak described a new data-acquisition technique from Kinetic Systems that will be used in the Dragster.

The meeting recessed to the auto shop where Peter's car was a focus of attention. Bill provided Dunkin' Doughnuts to celebrate his reelection. The meeting was adjourned at 9:45 PM.

Submitted by Secretary Tim Moore

From Other EV Newsletters and Articles about Electric Vehicles

The Eastern EV Club in their November newsletter had an article about the Boyertown Historic Auto Museum. Early electric vehicles are displayed there. EEVC members helped found and maintain the exhibits. President Charles Perry wrote an article on a book about Charles Steinmetz, “The man who tamed Lightning” and was a major contributor to the early success of the General Electric Co.

They report that ZAP has a bid to Ford for the TH!NK EV that Ford recently terminated. ZAP, located in Sebastopol CA, has gone through its own series trials with electric transportation products. The best-known product was the ZAP scooter, now discontinued. The offer was \$ 10-million in cash, stock, and/or warrants for all of Ford assets in the venture. Ford had over \$ 100-million invested in the venture. Editor-s note – not a bad move if they can get the California EV subsidy payments that Lee Iacocca and others are trying to grab with their juiced-up golf carts.

They also report that Honda is going the leasing route for introduction of its fuel cell car, the FCZ. The vehicle has a 157 liter tank holding compressed hydrogen. Both Honda and Toyota, barred from participation in the US_Fuel Cell Program, are expected to begin leasing vehicles in 2003 or 04.

DVEA, the Denver Group in the November issue of their has articles about fuel cell vehicle developments, wind farms, hydrogen production, and the nickel-chloride *ZEBRA* that operates at 350 degrees F and costs \$437/kw. They also note that FVEAA former Member, Dave Stensland who moved to the Denver area three years ago, will become their Newsletter editor next year on the retirement of George Gless.

The Sept/Oct issue of EV Circuit from the Ottawa Group has an article written by Darryl McMahon about *The Inevitable Electric Car*. He traces the development histories of electric and gasoline vehicles and concludes the continued depletion of petroleum will make the electric car the ultimate survivor.

They also report from the Newspaper USA that General Motors will give away thousands of golf cart-like electric vehicles to comply with California’s ZEV mandate and EV subsidy program. Car companies are being forced to offer up to 100,000 electric cars and other low-pollution vehicles per year in the near future. Golf-cart maker, Club Car in Augusta Georgia, will produce GM’s vehicle. They will be fitted with seat belts, windshield wipers and some other safety features. Editor-s note – A way to finally kill the ZEV? This program will rival the Arizona fabled, failed subsidy for CNG vehicles.

VEVA, the Vancouver group, in their November newsletter had an article about Rodney Wilde, founder of EVolutions, now merged with EV Parts. He likes driving in the fast lane. He built a 300 horsepower golf cart and taught Viper drivers a thing or two about the capabilities of electric vehicles. He is contemplating a 100-mph wheelchair. The issue also notes that Beijing plans to emphasize EVs at the 2008 Olympics. The energy sources will be solar, wind, and geothermal.

The December issue of Consumer Reports has an article about fuel economy. It is now at its lowest point in 22 years. The group offers recommendations: CAFÉ Standards should be gradually but persistently raised. Light-truck standards (SUV’s and pickups) must be brought into line with the way that these vehicles are used. Tax credits should be given to customers who buy hybrids and electric cars. Café standards should be based on vehicle weight.

From Other EV Newsletters and Articles about Electric Vehicles -Concluded

The Chicago Sun-Times in the November 13th issue had an article about the Nissan *Hypermini* electric car in Southern California. This is part of the California ZEV mandate. The University of California in Davis will test fifteen of the 2-seat cars. No details of vehicle were given in the article.

In the same issue the City of Chicago energy plan was unveiled. It emphasizes wind and other renewable energy sources. It calls for delivery of 50 megawatts of wind power to the city by 2003. The plan also urges that existing coal-fired power plants be required to observe the standards required for new plants. By 2010 the plan calls for a 1.7 billion kWh energy reduction through energy conservation. Another 1.3-billion kWh will come from distributed generation under central control. A final 1.3-billion kWh is to come from co-generation, the combination of a gas turbines in large buildings that provide both electricity and heat.

The Autumn issue of *Chemistry* had an extensive article about batteries used in consumer products. They ask, “What is your most-prized portable personal electronic device, A MP3 player, your laptop computer, Internet-capable PDA, or your cell phone? All these devices rely on rechargeable batteries. Flashlight batteries just won’t cut it.

Today the Ni-Cad the most common type. The battery is capable of delivering high currents at a relatively stable terminal voltage, making them well suited for cordless tools and tape payers. They can be easily recharged, but if left idle they will lose about 1% of their charge every day. Then there is the dreaded “memory effect”. Repeated partial discharge and recharging will leave the cell unable to go past that partial level. A Ni-Cad is often thrown away because of this. Cadmium in the battery is expensive and toxic, requiring special handling after disposal.

A fundamental change in battery design for consumer electronic devices was introduced in 1962 with the introduction of the Lithium-Ion (LiON) battery. Chemists call them “rocking chair batteries because the do not use an oxidation-reduction electrochemical mechanism. Lithium ions move forward and back in this device. LiON batteries can undergo thousands of charge-discharge cycles and store more energy per unit of mass than NiCads. They do not have a memory effect. The LiON battery is rapidly becoming the choice for consumer portable electronic devices.

The cost for Ni-Cad and LiON batteries makes them uneconomic for electric car use.

The November 11th issue of *Business Week* on page 50 has a story about a new manufacturing technique being investigated by GM. It requires up to \$ 400-million to launch a new car model. Much of this goes for tools and dies. Over 80,000 cars per year must be sold to amortize this investment over its product life.

Most cars use a “space-frame”– a single welded structure that integrates a safety cage with heavy rails that give a car its stiffness. The frame is very precise. Stamping thick sheet metal into a U-shaped section, and then welding two of these together fabricate rails. GM hopes to substitute a technique called “hyrdoforming”. This uses injection of high-pressure water into a closed section of rail material to shape the metal. The section expands like a balloon to confines of a simple die. Complex shapes can be formed that would be impossible by stamping. Cost projections show that product launch costs can be cut to half of the present \$400-million.