EEVC NEWSLETTER

Published by the Eastern Electric Vehicle Club

Peter Cleaveland, Editor **Vol 25 No 3**
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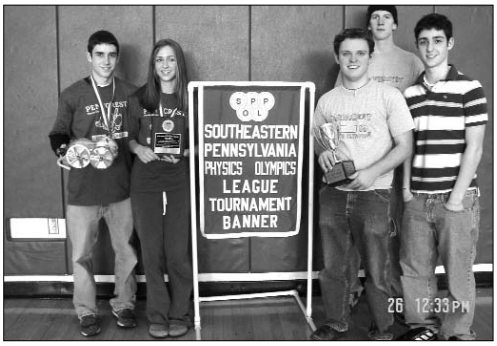
EEVC PRESENTS "BEST ELECTRIC CAR" AWARD



(left): Roxanne Spina and Shane Carlson, juniors from Penncrest High School won our EEVC Best Car Award.
(right): The PSE&G TEAM CUP was won by Penncrest High School. Holding the cup is captain Lee Jan Kausks, a senior; to his right are junior Justin Ferri and senior Kirk Miles, who plans on attending Penn State next year.

The EEVC made its annual "Overall Best Electric Car" award at the Southeastern Pennsylvania Physics Olympic League's final meet of the year, held in Penncrest High School, Saturday, February 26th.

On hand to help select and present the award were Ron Groening and yours truly (Oliver Perry). I enlisted the help of several Penncrest High School parents to assist us in the evaluation of the cars; Mr. Bob Skoog, and Mr. Alan Lautz. Mr. Skoog addressed the contestants and the spectators informing them the criteria used in selecting the best overall car.

The intent of this year's electric vehicle event was to have students design and construct an electric powered device utilizing a two-liter soda bottle. The device had to run up an small incline, drop into a water trough, and then travel eight feet over the water to the other side in the shortest amount of time. The soda bottle made up the major part of the vehicle's body. Wheels, propellers, flotation devices, or whatever were attached to and placed within the bottle. Each student was allowed to use up to two specified electric motors and up to two 9 V batteries.

The cars came in various forms, some with all parts attached outside the bottle and others with motors and batteries inside the bottle. Most of the cars used normal outer wheel surfaces to climb the ramp and then used blades attached to the sides of the wheels to propel themselves through the water. A number of cars used airplane propellers that pushed air to both climb the incline and travel over the surface of the

water. A vehicle built by a North Penn High School student had a huge prop and set the smallest time record. But, complaints came from opposing teams that the part that supported the soda bottle, made of light styrofoam, extended too far out in front of the bottle to be considered a legal entry. Rules required that the bottle touch the finish line first, not an extension beyond the bottle.

Although placement in the contest was not the major factor in determining our award, a well designed vehicle and a well constructed vehicle should be expected to perform well.

25th EEVC ANNIVERSARY CELEBRATION SET

Attention All EEVC Members and Friends:

We are celebrating our 25 years as an organization with a luncheon April 10th at the Boyertown Museum of Historic Vehicles. Reserve this date.

We would like to keep the cost per person to about $20 to $25. Husband and wife couples will be discounted to $30 to $40 per couple. The greater number of people attending, the easier it will be to keep the cost down.

It is important that you inform us immediately as to whether or not you plan to attend this luncheon.

We will plan on providing you with plenty of good food and an afternoon of "Historic Adventure."

Reserve your spot as soon as possible. We must have an accurate count well before April in order to notify the caterer.

Reserve your place by calling Oliver H. Perry, 609 268 0944, e-mailing Perrydap@aol.com. or sending a note to Oliver H. Perry, 5 Olde Stagecoach Turn, Shamong, New Jersey, 08088.

To hold your place send a check of $20 per person or $30 per couple, made out to The Eastern Electric Vehicle Club. All checks should be mailed to the address above. If the cost is greater we will collect it at the event.

EEVC TRIBUTE TO PAUL HAFER
Part III

Attention to "The Details That Make a Difference"

The period of the sixties was one of amazing growth for The Boyertown Auto Body Works. Erminie Hafer credits many reasons for their success, including a most helpful piece of legislation in Pennsylvania. The new bill eased, or modified, the out-of-state sales tax which Pennsylvania companies had to charge. According to Erminie, the two local legislators who introduced Bill Number 1969 (passed in 1967), were deserving of the heartiest congratulations. My guess is that Paul Hafer had to work as hard politically to keep the climate suitable for manufacturing in Berks County as he did in the manufacturing plant. No doubt he was as engaged in national and state issues as he was in local civic matters. You don't manufacture for the military and live in isolation. The ability to function efficiently on the political level as well as on the design and engineering level is a gift that most do not have. And that is why men like Paul Hafer are extraordinary.

The Boyertown Auto Body Works also had its own airplane and pilot for business flights. In October of 1969 their pilot received an award from the National Business Aircraft Association for 1,0895,934 miles of safe flying. Later the company itself received an award in recognition of aircraft operation in the conduct of business for a total of 1,122,945 miles without accident or personal injury.

Birth of the Museum

Most of what our membership remembers of Paul Hafer and the Boyertown Auto Body Works has been learned through our association with the Boyertown Museum of Historic Vehicles. Paul "hoped to preserve the craftsmanship of the Berks County artisans through all periods of their vehicle manufacturing history." Tradition had always been important to the Boyertown Auto Body Works. He was dedicated to transferring honored Nineteenth Century heritage to the Twentieth Century. The best of yesterday was not to be lost today or forgotten tomorrow. For that reason Paul opened the Boyertown Auto Body Works Collection of Historic Vehicles of Berks County in 1965. About 5000 people attended the museum in the first year of its existence. The lessons it would teach would be enjoyed by countless school children, public service departments, and civic organizations. Paul even enlisted a local

Boy Scout troop to help in vehicle restoration for some of the vehicles he purchased for the museum.

Making the Boyertown Museum "real," bringing back the days of old as they really were, became an important goal for Paul. In 1968 a group of people who felt as he did sat in the museum meeting room and laid plans for the formation of the Hafer Foundation. In 1969 the Treasury Department issued an official communication that stated that the Hafer Foundation was accredited as a charitable and educational organization. Its purpose would be to perpetually establish, maintain and operate a public museum of vehicles, tools, and farm implements of historic significance to Berks County. Additional items of historical interest might be purchased from, loaned from, or accepted as donations from various outside sources and administered over by the trustees for the museum, which was perpetually endowed by the Hafer Foundation. Its official name henceforth would be The Boyertown Museum of Historic Vehicles.

The Beginning of Duryea Day

Paul Hafer is the founder of Duryea Day, an antique and classic car show presented each year in Boyertown on the Saturday before Labor Day. The event was created to honor automobile pioneer Charles Duryea and to pay homage to the persons and industries in Berks County who have made significant contributions to the transportation field. As many of our members know, this annual event draws antique and classic automobiles from a five-state area and is always a large and festive occasion. What we often fail to appreciate is that activities like Duryea Day, those which often become a traditional part of our culture, require a creator, without whom there will be no such activity. Paul Hafer did more than to just appreciate his heritage. He took steps to ensure that others would have that opportunity as well. It takes vision, time, talent, energy, good will, and desire to institute events like Duryea Day, and Paul Hafer personified all.

The first Duryea Day was held September 3, 1966 in conjunction with Boyertown's centennial celebration. Honored guests were the daughters of Charles Duryea, several Duryea in-laws, present and past presidents of the Antique Automobile Club of America, as well as representatives from automotive industrial suppliers.

Duryea Day 1971 had special significance for the Body Works family. It marked the beginning of the 100th year for the Boyertown Auto Body Works. About 4000 visitors were on hand that day to witness special ceremonies celebrating the Boyertown company's long term service employees and to view approximately 300 vehicles compete for various class prizes.

TOUR DE SOL SET FOR MAY

The 2005 Tour de Sol Championship, organized by the North East Sustainable Energy Association (NESEA) will be held May 13-16 in Saratoga and Albany NY.

Students, individuals and corporations are invited to enter and showcase their efforts to design vehicles that approach zero carbon emissions and use renewable fuels.

The draft schedule is as follows:

- Thursday, May 12—Evening arrival and registration;
- Friday, May 13—Technical testing, team to team presentations, and an evening seminar on vehicles approaching zero carbon emissions;
- Saturday, May 14—Display at Saratoga's Spring Auto Show;
- Sunday, May 15—Range event; will include visit to nearby points of interest, and possibly a hill climb up Prospect Mountain;
- Monday, May 16—Award ceremony and display in Albany, followed by a possible visit to Plug Power and its hydrogen refueling station.

For more information go to www.nesea.org or call Nancy Hazard at 413-774-6051.

TONY BASILICATO STILL AT IT

Tony Basilicato has been involved with EVs for many years, and for at one point addressed one of the meetings of the EEVC, expounding on a design he had created for a low-power EV. We were not that kind to Tony at the time, finding (well deserved) fault with some of his ideas, but Tony has not given up either designing or advocating EVs.

Now located in Atlanta, he is trying to get

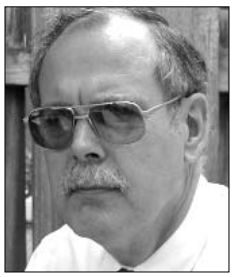
EV education into the schools there, and hopes to interest educators in not just teaching about EVs but in entering a vehicle in the Tour de Sol, and is looking for local support.

Tony's design, in his own words, is as follows:

"...my NEV will be a single seater - max. speed designed for 25 mph - It will be equipped with rear brakes (dual) a headlight, horn, signal, emergency & brake lights - a lap seat belt. It is designed for efficiency, therefor powered by a 1 horsepower motor supplied by 4 - 18 ampere hour batteries with a theoretical distance of some (min.) 50 miles. There are two other batteries - one for the headlight & the other for all the other power requirements both set to run continuous for at least 2 hrs. There are 6 onboard chargers - I expect the total weight to be somewhere around 200 pounds."

Tony is looking for encouragement and assistance, and it might be nice for someone in the area to get in touch with him. His e-mail address is Bassi Sifi@aol.com.

CALIFORNIA TRIES TO BE GREEN
By California Pete



California, well-known for environmental consciousness (and at the same time for being stunningly oblivious to the strength of nature) continues in its quest to be the greenest state in the union. The latest is a move by Governor Schwarzenegger to keep a promise he made to California voters over a year ago. The Million Solar Roofs initiative will be made part of a bill to be presented to the legislature with the aim of making California the world's solar leader. Provisions of the bill, SB 1, will:

• Require the California Public Utilities Commission (PUC) to establish a new, ten-year-fund to provide rebates for 3000 MW of solar photovoltaic systems on a million new and existing homes and businesses. The rebate will be required to decline each year and sunset in 2016 to help drive down prices and ensure a self-sufficient solar market in ten years.

• Require all builders of large-scale single-family homes to offer solar power systems to homebuyers beginning in 2010. Industry research shows approximately 10% of California homebuyers will choose solar roofs when offered. California current builds around 1% of its homes with solar power.

• Raise the net metering cap—the ability for customers to receive a credit from their utility company for excess electricity generated by their solar system—from 0.5% of peak load to 2% and then an additional 5% after review by the PUC.

Whether any of this will actually happen remains to be seen. We'll keep you posted.

Oh, and the oblivious part? The recent heavy rains in the Los Angeles area caused considerable property damage, and a fair number of million-dollar homes were either destroyed outright or sufficiently damaged to be uninhabitable. The houses were purchased in the first place because they were on high ground that offered stunning view of the ocean of other scenic areas without the owners having to look at the other 10 million people who live in the area. Angelenos will put up with a lot to keep that view, and if the earth slides and the house goes, they wait until things stop moving and rebuild. The *San Francisco Chronicle* in an article on February 17 quoted Southern California writer Mike Davis, the author of *Ecology of Fear: Los Angeles and the Imagination of Disaster*, who calls the area "Walden Pond on LSD," a city built on a "neocatastrophic" model. Since they've all made the mental adjustment that comes from living on an earthquake fault, they'd apparently rather live for today than worry about the future. One question puzzles, however: How ever do they get insurance?

NEWS UPDATE

Toyota ups European Prius sales targets

Toyota Motor Corp. has increased its 2005 European goal for sales of its Prius hybrid from the previous target of 15,000 to 20,000 units. The 2004 sales target was 8200.

Lexus sets hybrid SUV price

Lexus has announced the sticker price for its RX 400h luxury hybrid SUV: $48,535.

That's about $10,000 more than the gas-powered version, the RX 330. *Marketwatch* reports that Lexus says it has taken 12,000 deposits for the 400h and plans to sell 27,000 units annually. Mileage is 27 mpg on the highway and 31 mpg in the city, according to EPA, 67 percent better than the RX 330.

DaimlerChrysler FCV at Geneva show

DaimlerChrysler presented the next generation of its fuel cell vehicles at the 2005 Geneva Motor Show. The new F-Cell, built on the Mercedes-Benz B-Class, is a sports tourer with a sandwich floor concept developed by Mercedes-Benz.

The electric motor will develop more than 100 kW — 35 kW more than its predecessor generation, the A-Class "F-Cell." The operating range has been increased to almost 250 miles (400 km), and the component reliability and longevity have also been improved. The system has a modular design, and individual components can now be removed and maintained more easily.

Shell, GM cooperate on fuel cells in NYC

Jeremy Bentham, Shell Hydrogen CEO (l) and Larry Burns, GM ice president, Research & Development and planning refuel a hydrogen-powered vehicle.

On February 27 Shell Hydrogen and General Motors rolled out a joint program to bring fuel-cell vehicles to New York City.

GM will be providing 13 fuel cell-powered vehicles and Shell Hydrogen LLC intends to establish New York State's first hydrogen service station in the New York City metropolitan area in 2006, which is anticipated to involve installing a portable hydrogen-refueling module at an existing Shell station. GM and Shell will be the only team bringing fuel cell vehicles and hydrogen refueling to the New York City metropolitan area under the U.S. Department of Energy's Infrastructure Demonstration and Validation Project.

"This fleet will put New York in the forefront on the road to a future in which our vehicles, industries, and economy are energized by hydrogen," said Larry Burns, GM vice president, Research & Development and Planning.

The New York fleet is part of a total of 40 vehicles that GM is building under the DOE program. GM will also introduce fleets in California and the Detroit metro area and expand the current Washington D.C. fleet, which today includes six HydroGen3 vehicles. In addition to the New York station, under this program Shell will provide two hydrogen refueling stations in California, and a fourth station will be located somewhere between New York and Washington DC.

According to Jeremy Bentham, Shell Hydrogen's CEO, "The only way the hydrogen economy will be realized is having not only fuel cell vehicles, but also convenient places to refuel and local communities that will support this transition to a new energy source."

Diesels, hybrids just a stopgap

An AP story by Erica Bulman from the recent Geneva Auto Show quotes Laurent Aebi, a product specialist at Honda Motor Co., that the present move towards more diesel cars will not last. "Diesel is popular in Europe, clearly, but it's a short-term trend," said Aebi. "I give it another 10 years maximum. After that it will be the hybrid car."

But the hybrid, Aebi went on, is also a transitional stage, and will be replaced by fuel cell cars or pure electric cars.

At least some of the major car companies, the article says, are facing up to the coming scarcity or unavailability of traditional fuels, and are planning for the future.

EPRI says wave energy merits study

A new report from the Electric Power

Research Institute (EPRI) suggests that generation of electricity from wave energy may be economically feasible in the near future. The study was carried out by EPRI in collaboration with the DOE's National Renewable Energy Laboratory (NREL) and energy agencies and utilities from six states.

Conceptual designs for 300,000 megawatt-hour (MWh) plants (nominally 120 MW plants operating at 40% capacity factor) were performed for five sites: Waimanalo Beach, Oahu, Hawaii; Old Orchard Beach, Cumberland County, Maine; WellFleet, Cape Cod, Massachusetts; Gardiner, Douglas County, Oregon; and Ocean Beach, San Francisco County, California.

The study determined that wave energy conversion may be economically feasible within the territorial waters of the United States as soon as investments are made to enable wave technology to reach a cumulative production volume of 10,000 - 20,000 MW. (Land-based wind turbines, in comparison, generate 40,000 MW.)

According to the study, wave energy will first become commercially competitive with land-based wind technology at a cumulative production volume of 10,000 or fewer MW in Hawaii and northern California, about 20,000 MW in Oregon and about 40,000 MW in Massachusetts. Maine is the only state in the five site study whose wave climate is such that wave energy may never be able to economically compete with a good wind energy site. This forecast was based on the output of a 90 MW Pelamis wave energy conversion plant design and application of technology learning curves that will enable cost savings.

The forecast results have convinced the project team of the rationale for investment in wave energy technology research and development, including demonstration projects to prove the feasibility of wave energy conversion technology in actual sea-state environments.

The offshore wave energy reports are currently available at http://www.epri.com/targetWhitePaperContent.asp?program=267825&value=04T084.0&objid=297213.

COMING EVENTS

NHA Hydrogen Conference 2005
March 29-April 1, Washington, DC. Contact the National Hydrogen Association, 202-223-5547, or e-mail info@hydrogenassociation.org

POWER-GEN Renewable Energy
March 1-3, 2005, Las Vegas, NV. Contact Donna Welch, 918-835-3161, http://pgre05.events.pennnet.com.

EVS-21: The 21st Worldwide Battery, Hybrid and Fuel Cell Electric Vehicle Symposium & Exhibition
April 2-6, 2005, Monte Carlo, Monaco. Contact the EVS-21 Monaco Organization, +377 97 77 54 21/+377 97 77 54 22.

2005 SAE World Congress
April 11-14, Detroit. Contact Tim Mellon, 724-772-7162, tim@sae.org.

11th National Clean Cities Conference
May 1-4, 2005, Palm Springs, CA. Contact Annalloyd Thomason, 702-254-4180 x23 or 702-294-2333, or e-mail Info@afvi.org

20065 Tour de Sol
May 13-16, Saratoga and Albany, NY. Go to www.nesea.org or call Nancy Hazard at 413-774-6051.

Power of DC electric drag races
June 11, Mason-Dixon Dragway, Hagerstown, MD. Contact Chip Gribben at futurev@radix.net

5th International Advanced Automotive Battery (& Ultracapacitor) Conference (AABC-05)
June 13-17, Honolulu. Contact Advanced Automotive Batteries, 530-692-0140, info@advancedautobat.com.

MEETING SCHEDULE

Meetings are held in Room 35, Plymouth-Whitemarsh High School, 201 East Germantown Pike in Plymouth Meeting, PA, and begin at 7:00 p.m.

April 13

May 11

June 8

July 13