

AGENDA

CONNECTICUT PUBLIC TRANSPORTATION COMMISSION MEETING

February 1, 2007 - 1:30 PM

Union Station, Fourth Floor Conference Room
New Haven

1. Approval of the January 4, 2007 meeting minutes
2. Featured Speaker: Neil Schuster, President, Intelligent Transportation Society of America
3. Comments from the public
4. Comments from operating entities
5. Chairman's report
6. Old business
7. New business

CONNECTICUT PUBLIC TRANSPORTATION COMMISSION
Minutes of January 4, 2007

Connecticut Department of Transportation
2800 Berlin Turnpike, Newington
Conference Room A

Vice-chairman Fred Riese called the meeting to order at 1:33 pm. No corrections or changes were offered to the minutes of the meeting of December 7, 2006 and they were accepted as written.

Featured Speaker

Bryan Maruch of UTC Power gave a presentation on the advances in fuel cell technology for transportation applications and then focused on the fuel cell powered bus to be delivered to CT Transit later this month. It will be the first fuel cell powered bus on the East Coast.

Fuel cells are finding applications in transportation, space, defense, and on-site power generation. They have been used on the Apollo spacecraft and the space station. Fuel cells are up to 60% efficient and have high reliability, often supplanting commercial electric power in hospitals or computer centers where their higher reliability factor is a critical concern.

In bus applications, the 7 miles per gallon equivalent that fuel cells can deliver puts them at an advantage relative to clean diesel (4mpg), compressed natural gas (2+mpg), or hybrid (4.5mpg) bus technologies. For comparison purposes, one kilogram of hydrogen is equal to one gallon of diesel fuel. In addition to their mileage advantage, fuel cell buses are much quieter than diesel buses. Maruch gave a golf cart as a good equivalence to a fuel cell bus for operating noise. Further, fuel cell buses avoid the carbon dioxide, nitrogen oxides, and particulate emissions of diesel buses.

Maruch listed Nissan, Hyundai, and BMW as automakers who are testing UTC fuel cells to power their vehicles. Irisbus of Spain, Thor Industries, and VanHool have incorporated UTC fuel cells into buses now in revenue operation. VanHool buses powered by fuel cells are in operation in California, and this is the type of bus which will be arriving in Connecticut shortly. CT Transit has already formally accepted its VanHool bus.

The UTC fuel cell powered VanHool bus carries 49 kg of hydrogen in eight tanks. The fuel cell is packed into the back of the bus where the engine of a diesel bus would be. The bus has a range of 480 kilometers or 300 miles. It employs regenerative braking to recapture energy. Fuel cells produce water which must be removed. Unlike other designs, UTC fuel cells use a filter which acts as a sponge to capture this water.

The fuel cell bus has very low maintenance needs. Filters need to be changed and the water demineralization system needs to be cleaned. Those are the chief maintenance functions. The air conditioning system will run off electricity generated by the fuel cell. Over 99% of the

hydrogen fuel is consumed in the fuel cell, leaving a small remainder to be discharged through the air system.

The VanHool bus has better acceleration than a diesel bus at lower speeds. It reaches 30 mph in 15 seconds, quicker than the 20 seconds a diesel bus takes to reach that speed. However, a diesel bus is 5 seconds quicker reaching 50 mph (36 seconds vs. 31) than the fuel cell bus. The fuel cell bus uses roughly half as much fuel to travel an equivalent distance as does a diesel bus.

Connecticut Transit accepted the VanHool fuel cell bus in December. It will be delivered to Hartford from California later this month. Following training on the operation and maintenance of the bus and modifications at the CT Transit bus facility, it is anticipated that the bus will enter revenue service in March. The contract for the modifications at the bus garage has just been signed. These are simpler modifications than what was necessary for the CNG bus.

The VanHool bus has a 3-door design and incorporates two wheelchair positions. Similar buses are in operation in Oakland and Palm Springs, California, and another will soon be operating in Washington, D.C. The current cost per fuel cell bus is \$3.2 million, in contrast to \$350,000-400,000 for a diesel bus. The fuel cell is warranted for 4,000 hours of service. UTC's goal is to get durability of the fuel cells up to 30,000 hours of service, and get the price for the entire bus below \$1,000,000 per unit. Economies of scale will help lower costs as more buses are produced but some improvements in technology will also be necessary.

In response to a question on the safety of the hydrogen tanks, Maruch noted that hydrogen burns with a very low heat, burns very rapidly, and the gas disperses quickly. Hydrogen has an excellent safety record. Answering another question about weight, Maruch said the fuel cell weighs 900 kilograms (about 1 ton), while the whole bus weighs 41,000 pounds. The fuel cell is warranted for 4,000 hours, but Maruch expects it would go 10,000 to 15,000 hours between failures. We simply do not have enough experience with the fuel cells yet to know their actual durability.

Michael Sanders of ConnDOT mentioned that the department is working on a second fuel cell bus project with CTE of Atlanta to supply a 30' purpose built fiberglass bus with two 12 kW fuel cells and a battery pack in a fuel cell hybrid design. ConnDOT has received an FTA grant for this bus which should be on-site here in 18-24 months. ConnDOT has a \$5,000,000 FTA grant for fuel cells in transportation. Other components funded by this grant will include the first replacement of the UTC fuel cell, a fuel-cell powered supervisor's vehicle, and a permanent hydrogen fueling station.

Reports from Operating Entities

Mike Sanders reported that year-to-date bus ridership is up 6%, with November 2006 still showing an increase despite the drop in fuel prices. Also, an order has been placed for 55 new buses with bike racks for the Hartford Division of CT Transit.

He continued noting that final design contracts for the New Britain Busway are being awarded now. There remain some issues to be resolved with Amtrak. The Federal Railroad Administration is reluctant to see any right-of-way given up until a high speed rail study for the Springfield Line corridor has been performed. Though Federal money for this study is available, the State of Connecticut is unlikely to commit matching funds for such a study as the State sees no priority to pursuing high speed rail service in this corridor.

Peter Richter reported that rail ridership also continues to grow. New Haven Line ridership was up 3.2% for November and 2.8% year-to-date. November's Shore Line East ridership of 38,669 was up 0.67% over November 2005 and put 2006 ridership up 9.26% year-to-date. New Haven Line ridership for December benefited from four extra trains run on Saturdays and three on Sundays added for the holidays.

The running repair shop at New Haven Yard opened December 21 with the receipt of a temporary certificate of occupancy. The shop will be fully staffed by February.

On the car availability front, 116 M-2s have now completed critical systems replacement overhauls. We are still on track for receipt of the first new M-8 cars in 2008. Ten Virginia Rail Express (VRE) cars have been reconditioned by the end of 2006, with completion of that program scheduled for September 2007.

In response to a question about a Transportation Strategy Board proposal for a new interlocking at Greenwich, Richter said he was unaware of this project. He also mentioned, in response to another question, that there is no definite retirement date for the M-2s upon receipt of the new M-8s.

Parsons Brinckerhoff has been selected to perform the EIS for the proposed commuter rail service on the Springfield Line. The EIS will take two years to prepare. The actual service is expected to begin in 2011-2012.

Richard Schreiner distributed new schedules for the Danbury-Norwalk Route 7 Link bus service run by HART and the Norwalk Transit District. Ridership on the Route 7 Link went up when gas prices went up but has been flat recently. Ridership on the Ridgefield-Katonah shuttle continues to rise.

Richard Sunderhauf said that National Labor Relations Board arbitration has been requested by the Amalgamated Transit Union to resolve the issue of Greater Hartford Transit District's ZZ Shuttle, which is operated by paratransit drivers who are at a lower wage scale than bus drivers. Sunderland also mentioned that the recent changes at the Bowles Park apartments have been reversed, and all buses will now go directly into Bowles Park.

Old Business

Fred Riese noted that the Commission's Annual Report has been printed and mailed out, and he thanked Dennis King for his efforts to get the document printed and distributed. Riese also reported that the last issue of Atlantic Northeast Rails and Ports, dated today, praised Patricia Douglas, the executive director of the Northern New England Passenger Rail Authority

(NNEPRA), who spoke at the Commission's August 2006 meeting, for achieving a much improved working relationship between NNEPRA, which operates the Downeaster rail service between Portland and Boston, and David Fink, president of Springfield Terminal Railroad which owns the line over which the Downeaster service operates. Improved relations have also been achieved with C&J Trailways which operates a competing bus service between those cities and with whom the NNEPRA has developed a uniticket program allowing passengers to use the same ticket to ride the bus or the train.

New Business

Dick Carpenter reported that his questioning of Judy Gott as to whether the Transportation Strategy Board's report contained a freight component had resulted in the Board's intention to do a rail freight study.

Dick also related that the map of the month in the February issue of *Trains* magazine compares freight volumes carried in 1980 and 2005. In 1980, 918 billion revenue ton miles were carried on America's rail network. This increased substantially to 1.6 trillion revenue ton miles in 2005. These numbers compare to the World War II peak tonnage of 700 billion revenue ton miles in 1944.

The final scope and fees for the branch lines study of the Waterbury and New Canaan Branches are currently being negotiated, according to Peter Richter.

Kevin Maloney heard a recent news report that no bids had been received for the Quinnipiac River Bridge replacement project. Mike Sanders explained that there is a very limited number of firms that can handle a project of this scale. ConnDOT will therefore break the project into smaller pieces and re-bid it.

Dick Carpenter inquired as to the status of the Northeast Rail Operations Study (NEROps) and whether it had been finalized. No one from the Department was able to provide an answer on that at the meeting.

Fred Riese adjourned the meeting at 3:13 pm.

CONNECTICUT PUBLIC TRANSPORTATION COMMISSION

MEETING ATTENDANCE

Thursday, January 4, 2007

ConnDOT Headquarters, 2800 Berlin Turnpike
Conference Room A

VOTING MEMBERS

Richard Schreiner
Richard Sunderhauf
Richard Carpenter
Linda Blair
Frank Czeps (representing Ralph Capenera)
Terry Hall
Kevin Maloney
Yvonne Loteczka
John Zelinsky

GUESTS

Bryan Maruch
Stephen Troster

EX-OFFICIO MEMBERS

Frederick Riese

CONNDOT STAFF

Peter Richter
Mike Sanders
Dennis King