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## **Seaport complex takes delivery of zero-emission hauling truck**

**The heavy-duty rig, which will transport cargo between the ports of L.A. and Long Beach and Inland Empire warehouses and distribution centers, runs on electric batteries powered by a hydrogen fuel cell.**

By Ronald D. White, Los Angeles Times

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An El Segundo company aims to help the nation's busiest seaport complex advance its green technology efforts by providing zero-emission trucks for heavy-duty hauling.

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Executives from Vision Motor Corp. delivered a heavy-duty hauling truck Friday to one of the port complex's most important cargo haulers, Total Transportation Services Inc. of Rancho Dominguez.

The Tyrano class 8 rig looks like any other big rig, but a hydrogen fuel cell powers an electric drive, emitting only water from the tailpipe. The ports of Los Angeles and Long Beach are billing it as the world's first zero-emission heavy-duty hydrogen rig. If it performs to expectations during an 18-month test, Total Transportation plans to order at least 100 more.

Experts said the venture could set the stage for a new era in green cargo movement.

Fleets of zero-emission trucks with the range to deliver cargo to the Inland Empire's warehouses and distribution centers would "eliminate one of the principal objections neighbors and governments have when freight and logistics are a major part of the local economy — that's the problem of diesel emissions," said economist John Husing, whose firm, Economics & Politics Inc., tracks international trade.

The Tyrano uses a combination of technologies to operate with an expected range of 200 miles, said Rudy Tapia, vice president for business development for Vision Motor. The power flows through electric batteries, which are kept charged by a hydrogen fuel cell. No fossil fuels are used in the truck.

"Up and above the benefit of zero emissions, we at TTSI feel that this fuel format is the only true way to break our dependence on imported fuel. Hydrogen is the most abundant resource on the planet," said Vic La Rosa, president of Total Transportation, a hauling and logistics company that moves freight and provides warehousing and rail service and handles shipments through seaports in Los Angeles, Long Beach, San Diego, Seattle, Tacoma, Wash., and Norfolk, Va.

Getting Total Transportation onboard for the test was a big boost, said Martin Schuermann, chief executive of Vision Motor.

"It underlines our assumptions that there are multiple commercial applications for our hydrogen powered zero-emission big rig in today's trucking industry," Schuermann said.

Officials at the ports of Los Angeles and Long Beach have a lot riding on the outcome. The nation's largest and second largest cargo container ports, respectively, put up \$425,000 in seed money for the development of the Vision Motor truck through their joint Technology Assistance Program, which has an annual budget of \$1.5 million. The program has funded several projects, including a hybrid diesel tugboat from Seattle-based Foss Maritime Co.

"We really want to see the truck put through the paces to see how durable the fuel cell system is," said Heather Tomley, director of environmental planning for the Port of Long Beach. "We're hoping that it works as well as they think it will."

In addition to the on-road Tyrano, Total Transportation will test a Vision Motor truck more like the common terminal tractor, designed to move containers inside the ports.

Kevin Maggay, air quality supervisor for the Port of Los Angeles, said its green technology efforts so far, including the introduction of fuels that pollute less than earlier versions, were just the beginning.

"We have made great strides in reducing emissions, but we need to go further and we have to find new technologies to get us there," Maggay said. "Clean diesel does not get us there."

Vision Motor's business plan may have tapped into a way to avoid the problem all small start-ups face — the inability to rapidly scale up to major factory production levels. It's not building the trucks. It's using Freightliner to provide the chassis and cab. It's not building the electric motor, which is made by Siemens. The fuel cell is made by Hydrogenics Canada. Vision Motor will deliver the proprietary software to make the systems work together, Tapia said.

"We go with best of breed for the components for the best performance and durability and for the lowest costs," Tapia said. "It's the most capital efficient way to go."

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