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URBAN MASS TRANSPORTATION ADMINISTRATION
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Secretary of Transportation John A. Volpe today announced the award of two grants to the New York Metropolitan Transportation Authority (MTA)--both intended to significantly advance the technology of rail commuter service.

A grant of $7.4 million was made to develop and test in service eight combination gas turbine-electric powered commuter cars.

A second grant of $1.3 million was made to support development and testing of a new propulsion system for rapid transit cars.

Both grants were made by the Department's Urban Mass Transportation Administration.

DUAL POWERED COMMUTER CARS

The eight cars to be built under the UMTA award will be operated as two separate four-car commuter trains.

"We look upon the combination gas turbine-electric powered commuter car as comprising the trains of the future for suburban rail commuters," Secretary Volpe said.

Under terms of the grant, a matching local contribution of $7.4 million will be jointly provided by the MTA, the State of New York Department of Transportation, the Garrett Corporation of Los Angeles, California, and the General Electric Company of Erie, Pennsylvania. This will bring the 36-month project cost to a total of $14.8 million.

Garrett will design and build one four-car train and General Electric will design and build the other, Secretary Volpe said.

The cars, designated "GT-4," will be equipped with both gas turbine engines and electric motors, allowing them to operate under their own power or from electrified third rails.

Performance of the commuter cars will be similar to that of the most modern electric cars now operating in suburban service known as "M-1's" which recently were delivered to the Long Island Rail Road and are now being delivered for service on the Hudson and Harlem Lines of the Penn Central. The "GT-4" will be able to operate coupled to an "M-1."

However, upon reaching the end of electrified territory, "GT-4" will be able to uncouple and continue under turbine power. Thus, "GT-4" holds the promise of a one-seat, no-change ride from city to suburb and back, according to UMTA Administrator Carlos C. Villarreal.

The "GT-4" program has evolved from a series of steps dating back to 1966 when UMTA awarded a grant to the Tri-State Transportation Commission to build an experimental car with a gas turbine propulsion system. The result was "GT-1," an existing main-line coach equipped with a turbo-mechanical drive.

In 1968, the car was modified to become the "GT-2," which proved the feasibility of coupling the turbine to an electric drive and thereby provided the car with a dual-power capability.

The New York MTA was sufficiently encouraged by "GT-2" to fund a design study for revenue equipment, designated "GT-3." Further refinement of design will culminate in the "GT-4" cars, Administrator Villarreal said.

(more)

NEW PROPULSION SYSTEM

This UMTA grant will support development, testing and evaluation of an "energy storage" system that makes use of flywheels and solid state controls for rapid transit cars.

A one-third contribution of $632,000 to the project will be made by the MTA.

The energy storage system is being developed by the Garrett Corporation of Torrance, California. The system promises to reduce propulsion energy consumption and to eliminate much of the waste heat now dissipated during braking.

"In order to test the theory behind the energy storage system, two existing rapid transit cars will be equipped with inertial flywheels, direct current chopper controls and separately-excited DC traction motors," Secretary Volpe said. "The flywheels will store energy produced during the braking cycle which normally is discharged as heat. This stored or regenerative energy will be utilized during car acceleration to reduce the need for power from a third rail."

Another effect of the system is to provide transit cars with an on-board source of power. In case of emergency, the energy stored in the flywheels will be sufficient to move rail cars at least to the nearest station for comfortable and safe passenger exit, according to Administrator Carlos C. Villarreal of UMTA.

"The energy storage system promises to end the danger of passengers walking through darkened tunnels when trains are forced to stop between station," Villarreal said.

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For further information, contact the UMTA Office of Public Affairs at (202) 426-4043, or, the Metropolitan Transportation Authority, 1700 Broadway, New York, N. Y. 10019.

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