

ADVANCED TRANSIT VEHICLE CONSORTIUM

Los Angeles County Metropolitan Transportation Authority
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President:

John B. Catoe, Jr.
Deputy Chief Executive Officer, MTA

March 12, 2004

TO: BOARD OF DIRECTORS

FROM: JOHN B. CATOE, JR., PRESIDENT

SUBJECT: HYBRID HIGH-CAPACITY BUSES

**ACTION: AUTHORIZATION TO SOLICIT SOLE SOURCE
PROPOSAL FOR HYBRID ARTICULATED BUSES
(PUBLIC UTILITIES CODE §130236)**

RECOMMENDATION

- A. ATVC's Board finds that procurement under Public Utilities Code §130232 does not constitute a suitable procurement method adequate to meet ATVC's goals, and that the procurement of the prototype equipment (hybrid transit vehicles) qualifies under Public Utilities Code (PUC) §130236.
- B. Authorize the President of the ATVC to solicit single source proposals and execute contract(s) for advanced-technology, high-capacity, alternate-fuel, hybrid-electric buses that are compliant with proposed 2007 and/ or 2010 emission regulations to PUC § 130236 and MTA's Procurement Policies and Procedures.

BACKGROUND

ATVC oversees research and development projects in the transit industry on behalf of the MTA and the regions transit providers. While there have been a number of alternative fuel and hybrid electric vehicles developed in recent years, current designs have failed to meet regional needs in terms of emissions, reliability, operating cost, and maintainability.

None of the currently available alternative fuel conventional drive-train vehicles will meet CARB 2007 and 2010 NOx and PM requirements. Although the use of alternate fuels is growing, the vast majority of transit agencies in the US, Canada, and Europe still use diesel. Consequently, most of the hybrid developments are diesel-hybrid. The few attempts to modify the diesel-hybrids to CNG-hybrids were largely unsuccessful due to the inadequate investments in their development (limited by the small CNG market).

New Flyer of America is the only U.S. vehicle manufacturer that has developed designs for sixty-foot articulated vehicles, and has also produced a forty-foot gasoline hybrid vehicle. The firm is willing to apply the gasoline-hybrid technology to its articulated vehicle platform. Specifically, the New Flyer vehicle would use a Ford Triton V10 gasoline engine, and in this configuration it is expected to meet all emission and performance goals, while at the same time it is expected to reduce operating and maintenance costs for this vehicle. Because MTA already has over 400 New Flyer buses in active service, there are already existing facilities and equipment for supporting New Flyer vehicles.

Similarly, North American Bus Industries (NABI) is the only U. S. vehicle manufacturer with the capability of manufacturing forty-five foot composite CNG composite vehicles. The firm is willing to apply alternate-fuel hybrid technology to its forty-five foot composite vehicle platform. The NABI vehicle already offers significant advantages in providing higher capacity at a lighter weight. The potential conversion of this vehicle to either a gasoline-hybrid or to a CNG-hybrid may provide another vehicle configuration that it is expected to meet all emission and performance goals, while at the same time it is expected to reduce operating and maintenance costs for this vehicle. As with New Flyer, MTA has substantial operating and maintenance experience with NABI buses.

Both, CARB and SCAQMD, recognize gasoline and CNG as alternative fuels. This limited test should help determine the viability of the gasoline hybrid configuration in an articulated vehicle and in a forty-five foot vehicle.

ISSUE

Based on the CARB 2007 NOx and PM requirements, the MTA must identify workable technologies for the next generation of high capacity buses. A single-source procurement with New Flyer of America and with NABI is recommended because the limited nature of this demonstration test program precludes extensive development investment in a new vehicle design. New Flyer of America is the sole North American Bus manufacturer that has produced a gasoline hybrid-electric vehicle, and they are both willing and capable of producing a vehicle in this size/configuration. NABI is the sole North American Bus manufacturer that has produced a forty-five foot CNG composite vehicle, and NABI is willing and capable to adapt this vehicle in a new configuration.

In addition, the ATVC's consultant has participated in a number of discussions with other regional transit properties, including Long Beach Transit, Santa Monica Transit, and several others, who view the adaptation of gasoline powered hybrid articulated vehicles as a positive application that may have significant emission and operating cost benefits for our region. Thus, the proposed test will have region-wide application.

ALTERNATIVES

Procurement by a sealed low-bid process was considered by staff but is not recommended. The sealed bid process does not adequately permit evaluation of the factors since the process must award to the lowest-cost, responsive, responsible bidder. The buses being procured represent new technologies, power plants, materials, and/or configurations that are not clearly defined. For these reasons, staff does not recommend the sealed low-cost bid alternative.

Procurement by competitive negotiation was also considered by staff but is not recommended. The procurement involves a small quantity of prototype equipment that is not sufficient to attract additional bus manufacturers. Market research has determined that New Flyer of America and NABI are the only US manufacturers with the capability to manufacture the specified articulated buses.

As the result of the evaluation and operational testing, the MTA and other regional agencies will be better able to competitively procure hybrid vehicles in the future.

FINANCIAL IMPACT

No additional funds are required in the FY04 budget for this board action. The procurement of the buses in Recommendation B are included in ATVC's FY04 Budget. Once proposal are evaluated and a recommendation for contract award is made, funding will be encumbered.

NEXT STEPS

The performance specifications for the requested buses will be issued as soon as the authorization is granted. Staff anticipates bringing award recommendations back to the ATVC Board of Directors in late 2004.

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