



Board Report

File #: 2017-0303, **File Type:** Contract

Agenda Number: 43

**SYSTEM SAFETY, SECURITY AND OPERATIONS COMMITTEE
JULY 20, 2017**

**SUBJECT: THIRTY-FIVE 60' ARTICULATED ZERO EMISSION
TRANSIT BUS CONTRACT**

ACTION: AWARD CONTRACT FOR REPLACEMENT OF 60' TRANSIT BUSES

RECOMMENDATION

CONSIDER:

- A. AUTHORIZING the Chief Executive Officer to award a firm fixed-price contract, Contract OP28367-001, Part D, to New Flyer of America for the manufacture and delivery of thirty-five 60' zero emission transit buses, in the amount of \$51,211,033 for the base contract, including charging equipment, taxes and delivery; exclusive of any contract option buses, subject to resolution of any properly submitted protest.
- B. AUTHORIZING the CEO to award an additional not-to-exceed amount of \$8,839,064 for Optional Vehicle Features, Spare Parts, and Training Aids for a total combined contract amount not-to-exceed \$60,050,097.
- C. ESTABLISHING a life-of-project budget of \$72,101,419 for the purchase of thirty five zero emission buses, charging equipment, installation costs, infrastructure upgrades, and contingency under CP 201073.
- D. FINDING that the award to New Flyer of America is made to the Proposer that provides the agency with the best value and is most advantageous to Metro. The recommended price addresses all contract requirements and represents the best overall value when all RFP evaluation factor are considered.
- E. RECEIVING AND FILING the presentation on the Strategic Planning for Metro's Transition to 100% Zero Emission Bus Fleet by 2030 (Attachment C).

ISSUE

Between FY18-FY22, Metro is scheduled to retire and replace two-hundred sixty (260) 60' CNG buses that will reach the end of their useful life. Recently, staff was also directed to initiate plans to

operate only Zero Emission Buses on Metro's Orange Line by 2020.

This action authorizes the award of a contract for thirty five 60' buses to New Flyer for the replacement of retirement eligible CNG buses currently operating on the Orange Line, and for the initial deployment of related charging equipment on the MOL right-of-way, and at Metro Division 8 in Chatsworth.

DISCUSSION

In April 2016, Metro's Board of Directors authorized staff to initiate RFP OP28367 for the procurement of up to 1,000 CNG or Zero Emission Transit Buses. RFP OP28367, issued in July 2016, consists of four parts, one separately evaluated procurement of each vehicle type:

- Part A, 40' CNG buses (base order of 295, award targeted for June 2017)
- Part B, 60' CNG buses (base order of 65, award targeted for July 2017),
- Part C, 40' ZE buses (base order of 60, award targeted for July 2017),
- Part D, 60' ZE buses (base order of 35, award targeted for June 2017).

This recommended Board action pertains solely to Part D, 60' Zero Emission buses.

Staff will return later this year with recommendations for the remaining two parts of this solicitation. Staff prioritized the solicitation review of Part D as these 60' zero emission buses are needed as soon as possible to replace 60' CNG buses that have reached the end of their service life and ensure the electrification of the Metro Orange Line by 2020.

For this contract procurement, Metro used a "Best Value" competitive negotiation process which considered such factors as:

- Broadest possible range of competing products and materials available
- Fitness for purpose
- Scoring preference for participation in Metro's Local Employment Program
- Manufacturer's warranty
- Performance and Reliability
- Life Cycle Costs
- Delivery Schedules
- Support logistics

Utilization of a "Best Value" solicitation process for this procurement identified the 60' ZEB bus most suited to Metro's operating needs by permitting discussions with proposers to evaluate performance and reliability of the proposed components, warranty, cost data and delivery schedule.

The Local Employment Program (LEP) is a FTA approved pilot for Metro's Rolling Stock procurements. The LEP allows for geographical preferences to be applied as part of Metro's evaluation scoring. The voluntary program provides proposers with incentive points for creating new jobs in California. The proposed awardee New Flyer of America was unable to participate in this voluntary program for this contract due to the low production volume of only 35 buses.

PLAN TO TRANSITION TO 100% ZEB FLEET BY 2030

This procurement supports both Metro's bus fleet management and replacement plans for FY18 - 22 and supports transition to a 100% zero emission fleet by 2030 (Attachment C).

To achieve these objectives, Metro's electrification plan consists of near and long term elements. The near term elements are those that may be applied now with limited risk to service while providing Metro with the needed opportunity to evaluate and initiate mitigations for real and possible impacts to service and operations. Metro's plan to transition to a 100% Zero Emission Fleet considers:

- Current status of electric bus technology,
- Production,
- Impact to Service,
- Impact to Facilities & Infrastructure,
- Impact to Operating Practices and Operating Environment,
- Impact to Operator and Maintainer Training,
- Service contracts with energy utilities, and
- Costs

In brief, it is currently not possible to immediately transition to 100% zero emission operation without significant risks to service and operation:

- Current ZE bus technologies do not permit a 1:1 replacement of CNG buses with ZE buses due to differences in costs and performance. In particular, this includes issues with ZE buses that include operating range and vehicle weight;
 - Facilities and infrastructure modifications will be required to support ZE bus operation & maintenance; this will take time and money.
 - There are additional unknowns about potential operating impacts related to maturity of ZE technologies, such as ZE technology maturity and battery life durability (i.e. will a ZE buses operating range degrade over time).
- Currently, there are no mitigation plans in place should a power outage occur preventing buses from charging overnight or through-out the day.

Near term elements of Metro's ZEB plans consist of:

1. Electrification of the Metro Orange Line by 2020 (45 ZE buses required)
 - Procurement of 5 60' ZE buses from BYD (Contract awarded)
 - Procurement of 35 60' ZE buses from New Flyer under this request for Contract Award
 - Procurement of 5 additional 60' ZE buses from New Flyer through a Lo-No Emission Grant
 - Negotiation and establishment of service contracts with third-party energy utilities and PUC
 - Electrification of facilities, operating lines, and infrastructure under separate public works procurements

2. Electrification of Metro Silver Line by approximately 2021 (~ 60 ZE buses required)
 - Coordinate with Foothill Transit for Bus Bay Charging Stations
 - Identify other candidate locations along ROW for installation of opportunity chargers (potentially Harbor Gateway Transit Center in South Bay)
 - Negotiate and establish service contracts with third-party energy utilities
 - Electrify facilities, operating lines, and infrastructure under separate public works procurements
 - In approximately FY2019, exercise option for additional ZE buses

Long term elements of Metro's ZEB plans consist of:

- Return to the Board in the FY18-FY19 timeframe, and periodically thereafter, to present plans for further expand electrification of Metro's bus transit system;
- Challenge the bus manufacturing and battery industries to develop ZEB designs that exceed Metro's goals for operating range, weight and cost;
- Develop a working group with local utilities (i.e. DWP and SCE) to ensure their support expanding the bus charging networks at Metro operating locations; negotiate with PUC and local utilities to refine rate structures that are optimized to electric bus charging and operations;
- Work with engineering/design firms to refine optimal procedures for installing and operating bus "Depot" and en-route charging systems;
- Seek funding support for Metro's ZEB program from federal, state and local sources;
- Evaluate alternate options for procuring battery electric bus technologies, such as using

commercial leases to help mitigate operational risks associated with batteries and/or propulsion system technologies.

DETERMINATION OF SAFETY IMPACT

There will be anticipated safety improvements for operating these new battery electric buses in Metro's bus fleet. These buses will also incorporate the latest safety features and designs, including improved ADA amenities and boarding ramps. The batteries and high voltage powertrain equipment on these buses includes special safety provisions, and "Locks out" employee access while they are energized. New buses also will provide a safer, cleaner environment for Metro patrons and employees.

FINANCIAL IMPACT

Total LOP funding of \$72,101,419 is included in Cost Center 3320 - Vehicle Technology, in project 201073. For FY18, there is \$20,993,816 million programmed to cover expenses for purchasing these buses. Because this is a multi-year contract, the Cost Center Manager will be responsible for ensuring that future year funding is programmed.

Impact to Budget

Future funding for this procurement may come from various eligible available Federal, State and local funding sources including financing options and grants that are eligible for Bus Capital Projects. Staff will pursue all sources of funding maximizing their use for these activities.

ALTERNATIVES CONSIDERED

Staff considered awarding an additional 45 ZE 60' buses as part of the initial base award recommendation to cover Metro's Silver Line BRT service. Staff determined that 40' ZE Buses are more suitable for operating on this corridor.

Staff considered purchasing CNG 60' replacement buses to cover this service, or continuing operation of 60' CNG buses. In both cases, these options are not recommended and would not comply with Metro Board's directives to operate zero emission buses on the Metro's Orange Line corridor. New 60 CNG buses would cost about \$42 million, \$20 million less than zero emission electric buses. Extending the service life of existing CNG buses would require an extensive overhaul, including a retrofit of the fuel system Retrofitting a new "Low NOx" CNG engine and transmission PPA package would add another cost. Even with these investments, Metro's older CNG buses do not come close to providing the reliability, passenger & operator comfort, cost effectiveness, and value as new buses do for Metro and our riders.

NEXT STEPS

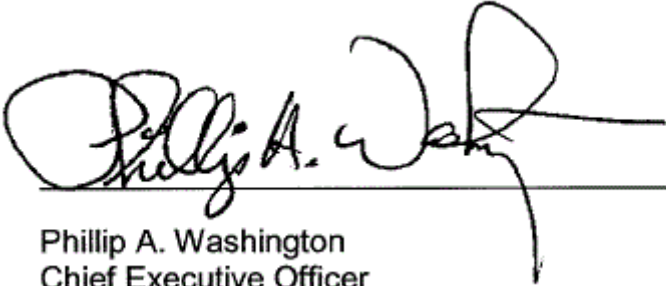
Upon Board approval, staff will execute the Contract with New Flyer and issue a Notice to Proceed. Staff will also report back annually on the status of the Plan to transition to a 100% ZEB fleet.

ATTACHMENTS

- Attachment A - Procurement Summary
- Attachment B - DEOD Summary
- Attachment C - Metro's Zero Emission Bus Plans
- Attachment D - Funding and Expenditure Plan

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