

**Board Report**

File #: 2017-0304, **File Type:** Contract**Agenda Number:** 42

**SYSTEM SAFETY, SECURITY AND OPERATIONS COMMITTEE
JULY 20, 2017****SUBJECT: SIXTY ZERO EMISSION 40' TRANSIT BUS CONTRACT****ACTION: AWARD CONTRACT FOR REPLACEMENT OF 40' TRANSIT BUSES****RECOMMENDATION**

CONSIDER:

- A. AUTHORIZING the Chief Executive Officer (CEO) to award a firm fixed-price contract, Contract No. OP28367-002, Group C, to BYD Coach & Bus, LLC (BYD) for the manufacture and delivery of sixty 40' zero emission (ZE) transit buses, in the amount of \$44,967,874 for the base contract, including spare parts, 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 \$2,806,849 for Optional Vehicle Features, and Training Aids for a total combined contract amount not-to-exceed \$47,774,723.
- C. ESTABLISHING a life-of-project budget of \$65,900,000 for the purchase of sixty 40' zero emission buses, charging equipment, installation costs, infrastructure upgrades, and contingency under Capital Project no. 201077.

ISSUE

In October 2016, staff was directed to initiate plans to operate only Zero Emission (ZE) Buses on Metro's Silver Line (MSL) by approximately 2021. Further, between FY18-FY22, Metro will require up to 600 40' buses to replace existing 40' CNG buses reaching the end of their useful life.

This action authorizes the award of a contract for sixty 40' ZE buses to BYD for the replacement of retirement eligible CNG buses, and for the deployment of related charging equipment on the MSL right-of-way, Metro Division 9 in El Monte and Metro Division 18 in Carson.

DISCUSSION

In April 2016, Metro's Board of Directors authorized staff to initiate RFP 28367 for the procurement of up to 1,000 CNG or Zero Emission Transit Buses. RFP 28367, issued in July 2016, consists of four

parts, one for the procurement of each vehicle type:

- Group A, 40' CNG buses (base order of 295, awarded in June 2017, pending resolution of protest)
- Group B, 60' CNG buses (base order of 65, award targeted for July 2017)
- Group C, 40' ZE buses (base order of 60, award targeted for July 2017)
- Group D, 60' ZE buses (base order of 35, award targeted for July 2017)

This recommended Board action pertains solely to Part C, 40' Zero Emission buses.

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

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 and Infrastructure
- Impact to Operating Practices and Operating Environment
- Impact to Operator and Maintainer Training
- Service contracts with energy utilities
- 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 and 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. by how much will a ZE bus's operating range degrade over time?).

- Mitigation plans need to be developed for ZE specific situations (i.e., currently there are no mitigation plans in place should a power outage occur and prevent buses from charging overnight or through-out the day).

Near term elements of Metro's ZE bus plans consist of:

1. Electrification of the Metro Orange Line by 2020 (45 ZE buses required)
 - Procurement of five 60' ZE buses from BYD (Not addressed in this Board action)
 - Procurement of 35 60' ZE buses from New Flyer (Not addressed in this Board action)
 - Procurement of five additional 60' ZE buses from New Flyer through a Lo-No Emission Grant (Not addressed in this Board action)
 - Negotiation and establishment of service contracts with energy utilities and PUC
 - Electrification of facilities, operating lines, and infrastructure
2. Electrification of Metro Silver Line by approximately 2021 (60 40' ZE buses required)
 - Procurement of 60 40' ZE buses from BYD through this Board action
 - 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 energy utilities
 - Electrify facilities, operating lines, and infrastructure

Long term elements of Metro's ZE bus plans consist of:

- Return to the Board during FY18-FY19 timeframe, and periodically thereafter, to present plans to 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 with 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.

Procurement Process

Staff prioritized the review of Group C of the solicitation as these 40' zero emission buses are needed to replace 40' CNG buses that have reached the end of their service life and to ensure the electrification of the Metro Silver Line by approximately 2021.

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
- Manufacturer's warranty
- Performance and Reliability
- Life Cycle Costs
- Delivery Schedules
- Support logistics
- Scoring incentive for local (CA) job creation

For this solicitation, Metro provided an additional scoring incentive for proposers who committed to local job creation. The Local Employment Program (LEP) is a voluntary FTA approved pilot for Metro's Rolling Stock procurements. The LEP provides proposers with incentive points for creating new jobs in California and for geographical preferences to be applied as part of Metro's evaluation scoring. BYD, the recommended awardee, committed to creating 68 new FTEs with wages, benefits, and facility improvements totaling \$4.56 million for the Base award, and \$8.41 million for the Base and Option quantities.

The Diversity and Economic Opportunity Department did not recommend a Disadvantaged Business Enterprise (DBE) participation goal for this rolling stock procurement. Transit Vehicle Manufacturers (TVM), as a condition of authorization to bid or propose on FTA-assisted transit vehicle procurements, must certify that it has an FTA approved DBE overall goal methodology in compliance with 49 Code of Federal Regulations (CFR) Part 26.49(a)(1). BYD is currently on FTA's list of eligible TVMs, and is certified at a 7.0% DBE goal level. In compliance with 49 CFR Part 26.49, TVMs report direct to FTA.

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 \$65,900,000 will be included in Cost Center 3320 - Vehicle Technology, in project 201077. For FY18, \$18,873,000 is 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

The current source of funds for this action is Prop C 40% Bonds, which are eligible for this project. This funding source is currently sufficient to award the contract base of this recommendation. Staff is pursuing additional Federal, State and Local funding sources such as Cap and Trade and similar sources as they become available.

ALTERNATIVES CONSIDERED

In addition to this Board action, staff considered awarding 45 additional ZE 60' buses, as included in Group D, to cover Metro's Silver Line BRT service but due to roadway concerns and Caltrans resurfacing of the HOT lanes on the 110 freeway in the next few years, the additional ZE buses will be awarded under a separate Board action.

Staff considered purchasing CNG replacement buses to cover this service, or continue using existing 45' CNG buses. In both cases, these options are not recommended as they would not comply with Metro Board's directives to operate zero emission buses on the Metro's Silver Line corridor.

NEXT STEPS

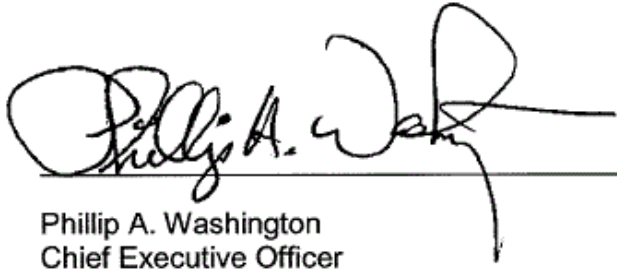
Upon Board approval, staff will execute the contract with BYD and issue a Notice to Proceed.

ATTACHMENTS

Attachment A - Procurement Summary
Attachment B - DEOD Summary
Attachment C - Funding/Expenditure Plan

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