Los Angeles County
Metropolitan Transportation
Authority
One Gateway Plaza
3rd Floor Board Room
Los Angeles, CA

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**OPERATIONS, SAFETY, AND CUSTOMER EXPERIENCE COMMITTEE
SEPTEMBER 20, 2018**

SUBJECT: A650-2015, HEAVY RAIL VEHICLE OVERHAUL AND CRITICAL COMPONENT REPLACEMENT PROGRAM

ACTION: APPROVE CONTRACT AMENDMENT

RECOMMENDATION

AUTHORIZE the Chief Executive Officer to execute Contract Modification No. 2 to Contract No. A650 -2015, with Talgo Inc. for the Heavy Rail Vehicle Overhaul and Critical Component Replacement Program (OCCRP), for the design and installation of an on-board Mist Fire Suppression System (MFSS) on 74 A650 Heavy Rail Vehicles (HRV) in the firm-fixed price amount of $10,355,000 for a total contract value not-to-exceed $83,325,494. The inclusion of the MFSS into the OCCRP will extend the period of performance by eight months.

ISSUE

Metro places a high priority on the safety of our customers, the public and our employees. To that extent, there has been a constant focus on taking proactive measures to maintain our infrastructure and seek out innovative approaches to prevent casualties on our rail system. Underground tunnel fires are extremely dangerous to human health and safety because smoke accumulates very quickly in such a confined space. The severity of an underground fire is demonstrated by the Daegu subway fire in which an arsonist set fire to a train stopped at a station of the Daegu Metropolitan Subway in Daegu, South Korea. The fire occurred on February 18, 2003, and killed 192 people, while injuring another 151 people. Hence, there is a need to improve fire suppression technology industry-wide to mitigate against such consequences.

BACKGROUND

The Metro Red Line, which opened in January 1993, was designed to the latest standards available in the 1980’s and early 1990’s. The design includes ventilation zones to help exhaust smoke that may accumulate in the event of fires in the tunnels. Given the planned service expansions, these existing measures may not be sufficient in the future to keep up with the expected smoke accumulation in the context of an accelerated fire. This is not an issue on the light rail tunnels as those lines opened later and were designed to more current standards.

DISCUSSION

To mitigate this issue, staff proposes adding MFSS to the vehicles that will be operating in the heavy rail lines. The use of such a system is intended to protect life and property from an on-board fire within the passenger compartment. The protection goal of the MFSS is to quickly and reliably suppress the spread of the occurrence of the fire condition through containment and prevention of a buildup of smoke and heat; affording protection to occupants, minimizing vehicle damage, and maintaining a tenable environment.

If the Contract Modification is approved, Talgo Inc. will integrate a service proven MFSS on the newest 74 A60 heavy rail vehicles currently undergoing a modernization effort.

The Diversity and Economic Opportunity Department (DEOD) did not recommend a Disadvantaged Business Enterprise (DBE) goal for this procurement as it is not applicable. This procurement falls under the Federal Transit Administration's (FTA) Transit Vehicle Manufacturer (TVM) goal in accordance with 49 Code of Federal Regulations (CFR) Part 26.49. However, Talgo Inc. has established a 2.61% DBE goal under the FTA TVM goal.

DETERMINATION OF SAFETY IMPACT

The approval of the Contract Modification will have a direct and positive impact to fire safety, system safety, service quality, system reliability, maintainability and overall customer satisfaction.

FINANCIAL IMPACT

The approved Capital LOP for HRV Midlife Overhauls (project 206038) is $86,662,000. It includes budget for the base contract and requested contract modification. The base contract is $72,970,494 and the requested contract modification is $10,355,000. The revised contract value is $83,325,494.

Funding of $17,490,000 for this action is included in the FY19 budget in cost center 3043 - Rail Vehicle Acquisition, Account 50308 - Service Contract Maintenance, project 206038 - Heavy Rail Vehicle Midlife.

Since this is a multi-year contract, the cost center Manager, Project Manager, and Senior Executive Officer, Vehicle Acquisition will be responsible for ensuring that Project costs are budgeted in future fiscal years.

Impact to Budget

The current funding source for this action is Federal 5337 SGR and TDA Article 4. Staff is actively pursuing additional Federal, state, and Local funding as it becomes available.

IMPLEMENTATION OF STRATEGIC PLAN GOALS

Approval of this recommendation supports the following Metro Strategic Plan Goal: Provide responsive, accountable, and trustworthy governance within the Metro organization. This project will improve safety, service, and reliability in an effort to provide a world-class transportation system that enhances quality of life for all who live, work, and play within LA County.

ALTERNATIVES CONSIDERED

Metro staff has reviewed various technologies deployed by qualified and mature manufacturers delivering successful on-board MFSS. The types of retardant materials these manufacturers utilized for its fire suppression systems for vehicles included, foam additives, powder, aerosol gas mixtures, gaseous extinguishing agents, water mist, and etc. Each of these materials was reviewed and analyzed as to its application and efficacy for interior and exterior type fire suppression, for impacting the health of passengers, and for the potential to compromise the safety of passengers. It should be noted that the primary objective of the on-board MFSS is to detect and suppress a vehicle's interior fire at the source, and provide tenable conditions for the passengers to reach a station stop and evacuate the vehicle.

Metro staff also reviewed the Metro Consultant studies, including their conclusions and recommendations on the performance of an on-board MFSS, and evaluated Industry Best Practices, standards and regulatory requirements.

Staff's findings determined that there were no current US standards on this subject matter. However, in the international arena, Western Europe had successfully implemented this type of system on its rolling stock and promulgated a number of standards for determining deployment of systems for this firefighting activity. The European authorities have issued a series of automatic fire detection and fighting systems fire codes and standards for rolling stock and guidelines including SI Loco & Pas 2014, EN 50553, EN 45545, ARGE Guidelines and UNI 11565 for both in the US. The majority of the on-board MFSS systems utilized water mist as the primary retardant methodology for the vehicles' interior portion, compliant with the regulatory requirements and international best practices.

Staff has confirmed that all other technologies employing the other forms of retardants are not suitable for use in an enclosed transit vehicle environment because of the potential of adverse health impacts to passengers A water-based suppression system will not harm passengers, and is considered the safest extinguishing medium for an interior transit vehicle fire.

Based upon the aforementioned, Metro staff has determined that the best course of action is to use a "service proven technology" approach as implemented by the European manufacturers and to have a water-based MFSS installed as part of the ongoing A650 vehicle overhaul project.

The Board may choose not to approve the Contract Modification. However, this alternative is not recommended. Currently, Metro's HRVs do not contain active fire suppression mechanisms.

NEXT STEPS

Upon Board approval, the Modification No. 2 to Contract No. A650-2015 will be exercised with Talgo, Inc.

ATTACHMENTS

Attachment A - Procurement Summary
Attachment B - Contract Modification Log
Attachment C - Funding & Expenditure Plan
Attachment D - DEOD Summary

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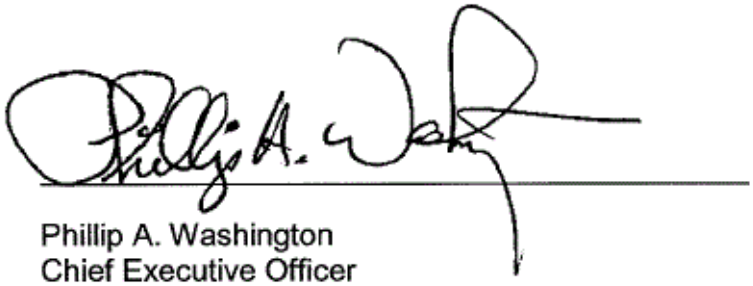

Phillip A. Washington
Chief Executive Officer