



## Board Report

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### SYSTEM SAFETY, SECURITY AND OPERATIONS COMMITTEE JULY 16, 2015

**SUBJECT: AUTOMATIC STORAGE AND RETRIEVAL SYSTEM MINI LOAD AND UNIT LOAD UPGRADES**

**ACTION: SOLE SOURCE, NON-COMPETITIVE PROFESSIONAL SERVICES CONTRACT AWARD**

#### **RECOMMENDATION**

SYSTEM SAFETY, SECURITY AND OPERATIONS COMMITTEE RECOMMENDED (4-0) authorizing the award of a sole source, non-competitive firm fixed price contract to Dematic Corporation (Dematic) for the **upgrade of Metro's Automatic Storage and Retrieval System (ASRS) Mini-Load and Unit Load**, CP# 209072, for an amount not to exceed \$1,294,517 for a period of ten months.

#### **ISSUE**

This procurement is for the upgrade of Metro's ASRS Mini-Load and Unit-Load components allowing for the continued flow of material and supplies from the Central Warehouse and Distribution Center to Transit Operations' bus, rail and non-revenue storerooms. The ASRS system was commissioned in 1986 by HK Systems Incorporated and acquired by Dematic in 2010. The Unit-Load (U/L) Floor Rails are the original equipment and has reached the end of its' useful life and requires replacement. The other components referenced in the scope of work have reached their required periodic replacements and upgrades for continued optimum performance.

#### **DISCUSSION**

Replacing and upgrading the ASRS Mini-Load and Unit-Load components and diagnostic utilities are required to continue the uninterrupted flow of material and supplies from the Central Warehouse and Distribution Center to bus, rail and non-revenue storerooms. Unless the components are replaced, the Central Warehouse and Distribution Center will experience long periods of downtime (stoppage of robots and cranes used to retrieve inventory) and delays of inventory disbursements to clients thus impacting Metro's ability to deliver on time transit services. Critical components of the ASRS system such as unit-load rails, horizontal drive wheel/reducer, motor controller components and others have become obsolete and/or are reaching their minimum operating capabilities in the manufacturer's specification, due to normal operating wear and tear. The unit-load floor rail, wheels, motor

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controller, Programmable Logic Controller (PLC) communication and diagnostic utility are the only components of the ASRS system requiring upgrade.

The comprehensive ASRS system includes:

- 11 Automated Guided Vehicles (AGV's/robot vehicles) that move material throughout the Central Maintenance Facility (CMF) and communicate via radio to proprietary on board processors;
- 12 Storage and Retrieval Machines (SRM's/robot cranes) that move Metro's inventory in/out of high rise storage and use serial communication to proprietary controllers/processors, which have the components that need to be replaced;
- 100 Pick Up and Deposit (P&D) Stands that have pallets delivered or picked up by the AGV's and communicate through a PLC and code;
- 100+ client work stations and PCs that run the ASRS client application at CMF and Metro Headquarters (USG) on a dedicated ASRS network and on Metro's Wide Area Network; including various communication controllers and devices that interface with the equipment management system, AGV battery chargers and charger stations, load sizing station and weigh scale along with a complex interface module that handles thousands of inventory transactions to and from Metro's Material Management System (M3) on a monthly basis in real time.

### **DETERMINATION OF SAFETY IMPACT**

Award of this contract will ensure that all Transit Operations divisions have adequate inventory to repair and maintain the agency's bus and rail fleet according to maintenance standards.

### **FINANCIAL IMPACT**

The adopted Life of Project Budget for this action is \$1,659,000 under project number 209072.

FY16 budget is planned for \$750,000 in cost center 6951-Vendor / Contract Mgmt-Contract/Client Services and account 53102-Acquisition of Equipment. The cost center manager and project manager will be responsible for budgeting for future fiscal years as required.

#### **Impact to Budget**

The source of funds for this contract will be from Transportation Development Act - Article 4. These funds are eligible for bus and rail operating and capital expenditures. No other source of funds was considered as the funds have been identified and budgeted for this project.

### **ALTERNATIVES CONSIDERED**

Dematic is the Original Equipment Manufacturer (OEM) and due to the proprietary systems components only Dematic can perform the necessary upgrade effectively and in a timely manner. Metro does not possess the technical knowledge and/or documentation to support the replacement

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or upgrades performed in house; nor supply the required technical details and documentation to other contractors. Any alternative to the approach would require consideration of the system complexity. The system is very complex, proprietary and without any knowledge of internal system functions/logics, drawings and specifications, it would require other competitors to reverse engineer both the hardware and software interface in order to work with the existing systems. This would put Metro at significant risk of project failure and system downtime if the system and processes do not properly function as required or fail.

In consideration of the system complexity and the criticality to Metro's transportation services, the department will initiate an assessment of a system back-up plan of action. Any identified course of action requires the collaboration of Metro's Transit Operations, Vendor/Contract Management, and Information Technology Services (ITS) Departments. In addition, award of any ASRS upgrade to a vendor other than Dematic Corporation is feasible, however it will require reverse engineering which may potentially increase the cost and prolong the duration of the project.

Another alternative is to postpone the replacement of the ASRS Mini-Load and Unit-Load components. Postponing this replacement is not recommended due to the potential adverse impacts to Metro's Transit Operations Department and transit service delivery.

### **NEXT STEPS**

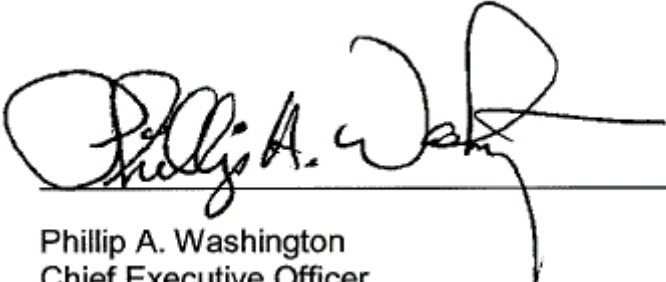
Replacement of the ASRS Unit-Load and Mini-Load components will occur over a ten month period following contract award.

### **ATTACHMENTS**

Attachment A - Procurement Summary ASRS Upgrade PS69513401

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