SUMMARY STATEMENT

ITEM NO.: PATCO-13-005  SUBJECT:  PATCO Automated Fare Collection System-EV1 Upgrade

COMMITTEE:  Operations and Maintenance

COMMITTEE MEETING DATE:  March 6, 2013

BOARD ACTION DATE:  March 20, 2013

PROPOSAL:  That the Board authorizes staff to negotiate a contract with Cubic Transportation Systems, Inc. to allow the ability to read/write to the MIFARE DESFire EV1 microchip in the Automated Fare Collection (AFC) System.

Amount:  $168,240

Firm:  Cubic Transportation Systems, Inc.
San Diego, CA

PURPOSE:  Contract with Cubic Transportation Systems, Inc. to upgrade the current AFC system to allow the ability to read/write to the MIFARE DESFire EV1 microchip and allow backward system compatibility as to allow the current MIFARE DESFire microchip in the FREEDOM cards to be accepted concurrently with new microchip.

BACKGROUND:  PATCOs Automated Fare Collection (AFC) System Card Interface Devices were originally designed to read and write to the MIFARE DESFire microchips embedded in PATCO’s Freedom Cards. The MIFARE DESFire uses the Triple Data Encryption Standard with 4 KB of storage.

In 2010, NXP Semiconductor announced the discontinuation of the MIFARE DESFire chip. PATCO was able to obtain a large final order of MIFARE DESFire chips in 2011 to allow time for PATCO’s AFC system integrator to design an upgraded interface which would allow acceptance of a chip with a higher encryption standard.

The upgrade proposed by Cubic would allow the Card Interface Devices to read and write to the MIFARE DESFire EV1 chip. The EV1 chip uses Advanced Encryption Standard which supersedes the Triple Data Encryption Standard. The upgrade will support the backward compatibility of the chip and allow both types of chips to be used in the PATCO system. The chip has 4 KB of memory and is compliant with the ISO/IEC 14443.4 standard.
The upgrade will include all Card Interface Devices in the AFC system (Fare Gates, Ticket Vending Machines, Parking Gates, Ticket Office Terminals) and includes the new serial number conversion function to support the manufacturer code.

Cubic Transportation Systems is the current manufacturer/integrator of PATCO’s AFC system. The software and device components are proprietary to Cubic.

**SUMMARY:**

- **Amount:** $168,240
- **Source of Funds:** General Fund- Subject to Reimbursement by Future Bod proceeds
- **Capital Project #:** TE1307
- **Master Plan Status:** N/A
- **Other Fund Sources:** N/A
- **Duration of Contract:** 1 year
- **Other Parties Involved:** N/A
RESOLUTION

RESOLVED: That the Board of Commissioners authorizes the proper officers of the Port Authority Transit Corporation (PATCO) to negotiate a contract with Cubic Transportation Systems whereby Cubic will upgrade PATCO’s Automated Fare Collection System to allow acceptance of the MIFARE DESFire EV1 chip in the amount of $168,240 per the attached Summary Statement; and be it further

RESOLVED: The Chair, Vice Chair and the President must approve and are hereby authorized to approve and execute all necessary agreements, contracts, or other documents on behalf of PATCO. If such agreements, contracts, or other documents have been approved by the Chair, Vice Chair and President and if thereafter either the Chair of Vice Chair is absent or unavailable, the remaining Officer may execute the said document(s) on behalf of PATCO along with the President. If both the Chair and Vice Chair are absent or unavailable, and if it is necessary to execute the said document(s) while they are absent or unavailable, then the President shall execute such documents on behalf of PATCO.

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KFI/jdr