



Metro

Metropolitan Transportation Authority

One Gateway Plaza
Los Angeles, CA 90012-2952

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**OPERATIONS COMMITTEE
OCTOBER 19, 2006**

**SUBJECT: UNITLOAD MOTOR CONTROLS AND LASER POSITIONING
UPGRADE**

ACTION: AUTHORITY TO NEGOTIATE AND AWARD CONTRACT

RECOMMENDATION

A. The Board finds that there is only a single source of procurement for motor controls and laser positioning and purchase is for the sole purpose of upgrading Metro's Automated Storage & Retrieval System (ASRS) Unitload Storage Retrieval Machines (SRMs) already in use. The Board hereby authorizes purchase of the equipment pursuant to Public Utilities Code 130237.

Requires Two-Thirds Vote.

B. Authorize the Chief Executive Officer to award a single source firm fixed price contract to HK Systems, Inc. to upgrade the ASRS Unitload SRMs for an amount not to exceed \$950,000, inclusive of sales tax.

ISSUE

Metro's Unitload SRMs were manufactured and installed at the Regional Rebuild Center in 1986 by HK Systems (formally Eaton Kenway) and in the ensuing 20 years have received only one minor emergency upgrade. The Unitload SRMs are the last of four major modules of the ASRS in need of an upgrade. The Manager Control System (MCS) was replaced in FY1997, the Miniload SRMs were upgraded with new motor controls and laser positioning in FY2002, and the Automated Guided Vehicles (AGVs) were replaced in FY2006.

The Unitload SRMs are used to store and retrieve pallet loads of materials in a rack supported matrix. Each SRM has a chassis which moves along a floor rail, and a rigid mast on which an elevating platform rise up and down. On the platform is a shuttle which extends in and out of the storage rack opening to store and/or retrieve pallet loads. The racking matrix consist of six aisles, 38 spaces deep and 14 spaces tall and have a total pallet load capacity of over 6000 storage locations.

The existing Unitload motor controls and positioning systems have become unreliable, obsolete, and for the most part, are no longer supported by the manufacturer. Over the past five years, Metro has experienced a significant increase in error rates and equipment down-time with the Unitload SRMs. This includes cranes being out of service for more than one week on several occasions due to the unavailability of parts and the complexity of failure issues.

In addition, four of the six existing end-of-aisle keypad controllers used by our system operators to bypass the automated controls from the MCS to retrieve pallet loads of material for adjustment and storage confirmation purposes are no longer functional, and the circuitry necessary to repair them is unavailable. As a result, load adjustments are made by hand using the onboard controls that move the SRMs in an extremely slow and inefficient manner.

The ASRS Unitload SRMs require upgrading to current available technology to ensure the reliable performance of the SRMs and the uninterrupted flow of material and repair parts to support Metro Operations.

OPTIONS

The first option is to compete this award. This option is not recommended. It is not feasible or safe to engage another contractor for this upgrade due to the proprietary nature of this equipment. HK Systems' proprietary communications, controls, and interface protocols necessitate only allowing the Original Equipment Manufacturer to perform this upgrade. Any other contractor would need to reverse engineer both the hardware portion of the upgrade, and also create software interface protocols compatible with our exact configuration and generation of ASRS to allow the newly installed hardware to operate seamlessly with the existing ASRS infrastructure. Due to the complex and proprietary nature of this system, Metro does not possess the technical knowledge and documentation to support such an effort.

In addition, many safety concerns arise with soliciting a third party to perform this work. The SRMs weigh thousands of pounds and must operate in a narrow environment at high speeds. Failure of the controls and positioning systems to perform properly would present a hazard to human life and could potentially cause tens of thousands of dollars in damage to equipment.

A second option is to not upgrade the unitload motor controls. This option is not recommended because not upgrading these SRMs significantly increases the risk of higher error rates and lengthier down times of cranes. Having SRMs out of service for more than just a few hours causes operating division replenishment orders for repair parts to be incomplete or go unprocessed until the SRMs are restored. In addition, critical parts needed for coaches and rebuild orders become inaccessible, and the delays in storing pallet loads of material as a result of inoperable SRMs causes backlogs which results in the utilization of overtime costs to catch up.

A full replacement cost of this project versus an upgrade is projected to be approximately six to seven million dollars.

FINANCIAL IMPACT

Funding of \$950,000 for this capital project is included in the FY07 budget under Cost Center 6350, Logistics, Material Management, Capital Project Number 209032, Replace Unitload SRM Controllers and Positioning System. This action is within the approved Life of Project budget.

NEXT STEPS

The Contracting Officer will conduct negotiations with HK Systems, Inc. to arrive at a fair firm fixed price for the upgrade to Metro's ASRS Unitload SRMs, not to exceed \$950,000.


ATTACHMENTS

- A Procurement Summary
- A-1 Procurement History
- A-2 List of Subcontractors
- B. Photo of a Unitload Storage Retrieval Machine

Prepared by: Jon Lyle, Material Supervisor
Lynn Montano, Administrative Analyst
Ted Montoya, DEO, Material Management



Lonnie Mitchell
Executive Officer, Procurement & Material Management



Roger Snoble
Chief Executive Officer

**BOARD REPORT ATTACHMENT A
PROCUREMENT SUMMARY**

UNITLOAD MOTOR CONTROLS AND LASER POSITIONING UPGRADE

1.	Contract Number: OP63501930		
2.	Recommended Vendor: HK Systems, Inc.		
3.	Cost/Price Analysis Information:		
	A. Bid/Proposed Price: \$950,000 NTE	Recommended Price: \$950,000 NTE	
	B. Details of Significant Variances are in Attachment A-1.D		
4.	Contract Type: Firm-Fixed Price		
5.	Procurement Dates:		
	A. Issued: N/A		
	B. Advertised: N/A		
	C. Pre-proposal Conference: N/A		
	D. Proposals Due: N/A		
	E. Pre-Qualification Completed: N/A – Only one source of supply		
	F. Conflict of Interest Form Submitted to Ethics: September 22, 2006		
6.	Small Business Participation:		
	A. Bid/Proposal Goal: 0%	Date Small Business Evaluation Completed: N/A	
	B. Small Business Commitment: 0% Details are in Attachment A-2		
7.	Invitation for Bid/Request for Proposal Data:		
	Notifications Sent: None	Bids/Proposals Picked up: None	Bids/Proposals Received: None
8.	Evaluation Information:		
	A. Bidders/Proposers Names: HK Systems, Inc.	<u>Bid/Proposal Amount:</u> \$950,000 NTE	<u>Best and Final Offer Amount:</u> \$950,000 NTE
	B. Evaluation Methodology: Sole Source Procurement Details are in Attachment A-1.C		
9.	Protest Information:		
	A. Protest Period End Date: N/A		
	B. Protest Receipt Date: N/A		
	C. Disposition of Protest Date: N/A		
10.	Contract Administrator: Otto Ojong	Telephone Number: 213-922-1454	
11.	Project Manager: Jon Lyle	Telephone Number: 213-922-3883	

**BOARD REPORT ATTACHMENT A-1
PROCUREMENT HISTORY**

UNITLOAD MOTOR CONTROLS AND LASER POSITIONING UPGRADE

A. Background on Contractor

HK Systems, Inc. is a systems integrator company based in Salt Lake City, Utah, and has been in business for more than 20 years. HK Systems has been providing Automated Storage and Retrieval (ASRS) systems to a broad line of companies in North America including Hewlett Packard, American Honda, Ford Motor Company, IBM and Anniston Army Depot. In the past, HK Systems has provided satisfactory service to Metro.

B. Procurement Background

A proposal was solicited from the only source of this system.

The Diversity & Economic Opportunity Department (DEOD) did not recommend a SBE goal for this procurement. Based on industry practices, the Prime (HK Systems) is expected to complete the entire scope with its own workforce. However, pursuant to the SBE Program, if HK Systems utilizes the services of subcontractors, they are expected to afford maximum opportunities to SBE firms in all subcontracting and supply service areas.

C. Evaluation of Proposals

A technical evaluation will be performed to ensure the product is identical to the unit being replaced. This procurement complies with Metro's Procurement policies and procedures.

D. Cost/Price Analysis Explanation of Variances

The recommended price will be determined to be fair and reasonable based upon comparison with other prices for replacement units sold by HK Systems. The price Metro will pay will be no greater than that paid by HK Systems' most favored customer(s) for orders of similar size when placed under similar terms and market conditions, and in no event will the price exceed \$950,000.

BOARD REPORT ATTACHMENT A-2
LIST OF SUBCONTRACTORS

UNITLOAD MOTOR CONTROLS AND LASER POSITIONING UPGRADE

PRIME CONTRACTOR – HK Systems, Inc.

Small Business Commitment

N/A

Total Commitment 0%

Other Subcontractors

N/A



