



**OPERATIONS COMMITTEE
JANUARY 19, 2006**

**SUBJECT: CONTRACT NO. OP33440667, ELEVATOR, ESCALATOR MAINTENANCE
AND REPAIR SERVICES**

ACTION: APPROVE NEW CONTRACT AWARD

RECOMMENDATION

Authorize the Chief Executive Officer to award a five-year firm, fixed unit rate contract, Contract No. OP33440667 to Mitsubishi Electric & Electronics USA, Inc., for Metro transit facilities elevator and escalator maintenance and repair services in an amount not to exceed \$29,979,166, inclusive of two one-year options and a 1.4% contingency for as-needed additional services, effective February 1, 2006.

RATIONALE

The existing contract OP33443130 with Mitsubishi Electric provides maintenance and repair services to 127 elevators and 122 escalators in the Metro transit system. The base contract expired on October 31, 2005. At the October 2005 Operations Committee, staff requested the Board to extend the existing contract for 90 days and to award a new replacement contract. The Board approved the extension of the existing contract, however did not approve the new contract award. The Board raised a number of questions regarding the maintenance of these escalators and elevators and requested additional information be provided by staff.

In response to the Board's concern about the condition of the existing transit elevator/escalator equipment and the maintenance contractor's job performance, staff directed an outside elevator/escalator consultant to assess both issues. The consultant's November 2005 evaluation concluded that, mechanically, Metro's elevator/escalator equipment is in satisfactory condition and the quality of the overall maintenance being provided by the incumbent contractor, Mitsubishi Electric, is good compared to current industry standards.

Metro's overall transit elevator and escalator equipment downtime due to equipment failure is relatively low. Year-to-date system-wide downtime, excluding preventive maintenance, is less than 1% for both escalators and elevators. Equipment downtime due to safety device shut-off or preventive maintenance is often perceived by the public to be equipment failure. This negative perception of Metro's elevator/escalator equipment reliability is the primary reason for shifting a significant portion of the preventive maintenance activities to after-

hours and weekends under the new contract. Even if Metro were to replace all 122 escalators in the transit system, the reduction in required preventive maintenance for the new equipment is negligible. More detailed discussion of the causes of escalator shutdowns is discussed in Attachment C.

Systemic preventive maintenance and timely repairs of the escalators and elevators is necessary to meet State code requirements and provide a safe and reliable vertical transportation system to transit riders. The elevators and escalators at transit stations play an integral role in transporting riders through the Metro's transit system and provide access to mobility-impaired patrons. In order to improve equipment availability, reliability, and minimize equipment downtime and its impact on riders, a higher level of service is needed. To achieve these service improvements, the scope of work and the level of effort under the proposed new contract substantially surpass that of the existing contract. Major elements that were added to this new contract to improve service include:

1. **Extended hours of regular maintenance service.**

Existing Contract: Current regular service hours under the existing contract are from 6:00 AM to 6:00 PM, Monday through Friday only. No maintenance is performed beyond these hours except for callback service to respond to equipment troubles.

New Contract: Under the new contract, regular service hours have been extended from 6:00 AM to 9:00 PM, seven days per week, including holidays. These increased service hours will allow for the performance of more maintenance during non-peak commuter hours. The physical presence of technicians in the transit system for fifteen hours a day, seven days per week, will result in improved response to equipment malfunction and reduce equipment downtime.

2. **An increased level of dedicated technical personnel.** In order to meet the higher maintenance and response demands that an aging and heavily utilized transit system requires, the technician staffing level under the new contract has been increased from 10-13 to 16 dedicated technicians, that will be exclusively assigned to the Metro elevator/escalator maintenance contract. The additional manpower will give needed flexibility to the maintenance program and provide onsite service coverage during after-hours, weekends and holidays.
3. **Moving the majority of major preventive maintenance work to weekends and after-hours.** Since the new contract will have extended regular service hours, major elements of equipment maintenance such as annual escalator/elevator inspections has been moved from regular business hours to weekends or after-hours. This will lessen the impact of preventive maintenance work on the availability of equipment to the public during regular business hours and reduce complaints.
4. **Incorporating liquidated damages for excessive equipment downtime and increased levels of spare parts on hand.** The new contract will impose liquidated damages on the service provider for excessive equipment downtime. In an effort to avoid monetary fines the maintenance provider has an incentive to invest in stocking an increased

level of spare parts to return equipment back into service sooner after a unit has become inoperable.

Acquiring this higher level of service has resulted in an increase in contract cost. In addition, a significant factor driving the cost higher in the new contract is the elevator/escalator trade's labor cost, which has escalated substantially since the award of the existing contract in October 2000. In the event that the cost of this increased level of service is deemed unaffordable by Metro, there are allowances in the contract to acquire reduced levels of service from the Contractor for a lesser contract value. However, in the interest of improved level of service for the benefit of transit riders, staff recommends the approval of the new contract with no reduction in the level of effort proposed under this preferred option.

FINANCIAL IMPACT

The funding of \$4,016,000 for this service is included in the FY06 budget in cost center 3344, Contracts & Administration under project 300011 (Bus Operations), 300022 (Blue Line Operations), 300033 (Green Line Operations), 300044 (Red Line Operations) and 300055 (Gold Line Operations). Since this is a multi-year contract, the cost center manager and Deputy Chief Executive Officer will be accountable for budgeting the cost in future years, including any options exercised. In FY05, \$2,424,353 was expended on this service.

ALTERNATIVES CONSIDERED

One alternative considered is to provide the service in-house. This would require the hiring of state certified technical personnel and the purchase of parts, equipment, vehicles and supplies. Establishing an in-house maintenance capability that is independent of the union labor pool would require years to develop and it is unlikely that Metro would be able to consistently attract, train, and retain a sufficient number of certified employees to perform the work in this industry's competitive market. Staff's analysis indicates that this is not a cost-effective option.

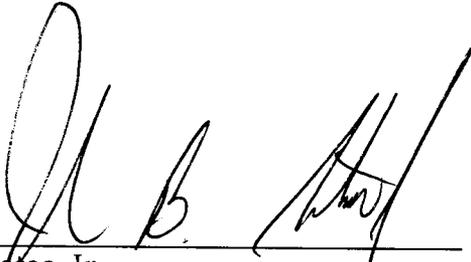
A second alternative considered is to reduce the level of service and hours of coverage required of the Contractor. This would result in increased levels of equipment downtime and customer complaints and is not a preferred option.

The final alternative considered is to replace the entire stock of transit escalators with new units and assess any potential maintenance cost savings resulting from the replacement. Attachment B provides an analysis of replacement and maintenance costs for a five-year period. Funding for this alternative is not currently available and is not considered a cost-effective option.

ATTACHMENTS

- A. Procurement Summary
- A-1. Procurement History
- A-2. List of Subcontractors
- B. Escalator Replacement Cost Benefit Analysis
- C. Causes of Escalator Shutdowns

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Deputy Chief Executive Officer



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Chief Executive Officer

**BOARD REPORT ATTACHMENT A
PROCUREMENT SUMMARY**

ELEVATOR/ESCALATOR MAINTENANCE AND REPAIR SERVICES

1.	Contract Number: OP33440668		
2.	Recommended Vendor: Mitsubishi Electric & Electronics USA, Inc.		
3.	Cost/Price Analysis Information:		
	A. Proposed Price: \$29,565,253	Recommended Price: \$29,979,166 (w/ contingency)	
	B. Details of Significant Variances are in Attachment A-1.D		
4.	Contract Type: Firm Fixed Unit Rate with Task Order Elements		
5.	Procurement Dates:		
	A. Issued: 3/28/05		
	B. Advertised: 3/28/05		
	C. Pre-proposal Conference: 4/13/05		
	D. Proposals Due: 6/10/05		
	E. Pre-Qualification Completed: 6/23/05		
	F. Conflict of Interest Form Submitted to Ethics: 9/12/05		
6.	Small Business Participation:		
	A. Proposal Goal: 5 % DBE	Date Small Business Evaluation Completed: 3/14/05	
	B. Small Business Commitment: 5.03% Details are in Attachment A-2		
7.	Invitation for Bid/Request for Proposal Data:		
	Notifications Sent: 32	Proposals Picked up: 14	Proposals Received: 3
8.	Evaluation Information:		
	A. Bidders/Proposers Names: Mitsubishi Electric/Electronics USA Fujitec America, Inc. Kone Inc.	<u>Proposal Amount:</u> \$33,125,647 \$36,209,985 \$39,294,086	<u>Best and Final Offer Amount:</u> \$29,565,253* \$31,301,322* \$38,198,838* *w/o contingency
	B. Evaluation Methodology: Describe Methodology Details are in Attachment A-1.C		
9.	Protest Information:		
	A. Protest Period End Date: 10/24/05		
	B. Protest Receipt Date: N/A		
	C. Disposition of Protest Date: N/A		
10.	Contract Administrator: Victor Ramirez	Telephone Number: 922-1059	
11.	Project Manager: Hussein Farah	Telephone Number: 922-8877	

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

ELEVATOR/ESCALATOR MAINTENANCE AND REPAIR SERVICES

A. Background on Contractor

Mitsubishi Electric & Electronics USA, Inc. Elevator/Escalator Division (Mitsubishi) is headquartered in Cypress, California. Mitsubishi specializes in the maintenance and repair of various manufacturers' makes of elevators and escalators. They are also a large source for new construction projects in the Western United States.

Mitsubishi performs maintenance and repair services for South Coast Plaza, Costa Mesa, CA, Universal Studios, North Hollywood CA, and all Target Stores nationwide. Their current construction projects include renowned properties such as the Getty Museum, Griffith Park Observatory, MGM Tower, and the Los Angeles Municipal Courts in Chatsworth and Palmdale.

Mitsubishi is the incumbent contractor under Contract OP33443130, awarded in October 2000. Their work has been satisfactory to date.

B. Procurement Background

Staff developed requirements and supporting Contract terms and conditions that transform the existing services to better meet the needs of Metro's patrons. Using other public works as a model, like Caltrans highway construction and maintenance, staff requires the new Contractor to perform all visible work outside of the peak commute hours. Moreover, incentives have been included to assure escalators are operating during high demand periods.

The new Contract services include maintenance and repair of all vertical transportation system-wide as was required under the existing Contract. However, the new Contract now requires the Contractor to perform services that were previously considered out of scope. For example, abuse, misuse and vandalism were subject to an equitable adjustment for labor and materials under the existing Contract because labor was not dedicated to Metro properties. The new Contract makes the labor dedicated to Metro and will only allow a pass through of materials plus a reasonable mark-up for as-needed services. This as-needed work will be managed using task orders.

The recommended total Contract Not-to-Exceed amount is mostly made up of firm fixed unit rates for each escalator and elevator for a five-year period. Furthermore, staff included a budgeted value for as-needed materials that each proposer then applied their competitive material mark-ups. For example, the recommended awardee's proposed offer of \$29,565,253 is made up of firm fixed unit rates for

maintenance and repair that equals \$27,661,253, and another \$1,904,000 for as-needed services; of which \$1,600,000 is a pass through budget for materials.

The recommended term of five years includes Metro held options for years four and five. In addition, staff has built-in the ability to lower the level of effort if it is later deemed to require right sizing. This lower level of effort also includes firm fixed unit pricing that will not require renegotiation of rates or terms and conditions.

C. Evaluation of Proposals

This procurement was issued as an RFP using explicit factors that evaluated proposer's work plans, technical qualifications, experience and price; where price was evaluated to be of equal importance against all other technical factors. All three proposers were deemed to be qualified to perform the services. The recommended Contractor (Mitsubishi) was not only determined to be the highest rated technical offer, but they also offered the lowest price. Staff complied with all Procurement policies and procedures in its evaluation and recommendation for award.

D. Price Analysis Explanation of Variances

The recommended price has been determined to be fair and reasonable based upon adequate competition and award to the lowest price offer. Staff has concluded that many factors make a comparison of the existing contract price with the new contract price meaningless. Those factors include far greater part replacement costs because the elevators and escalators are in many cases, now past the midpoint of their expected life; a larger and now fully dedicated labor force, driven by extended hours of service coverage, including evenings, weekends and holidays; and prohibitions from performing service during peak demand periods.

**BOARD REPORT ATTACHMENT A-2
LIST OF SUBCONTRACTORS**

ELEVATOR/ESCALATOR MAINTENANCE AND REPAIR SERVICES

PRIME CONTRACTOR – Mitsubishi Electronic & Electrics USA, Inc.

Small Business Commitment

Plummer’s Elevator Service	3.44%
Elite Escalator Inc.	<u>1.59%</u>
Total Commitment:	5.03%

Other Subcontractors

None

**BOARD REPORT ATTACHMENT B
ESCALATOR REPLACEMENT COST BENEFIT ANALYSIS
(in 2005 dollars)**

Construction Costs Rough Order of Magnitude (ROM):

Remove and Replace 122 Escalators	\$75.0M	
Modify Existing Escalator Pits	\$43.6M	
Provide State Mandated Escalator Cover Awnings	<u>\$14.0M</u>	
Total Construction Costs:		\$132.6M

Maintenance Costs:

Maintenance Costs over 5 Year Period	\$30.0M	
Estimated Maintenance Savings over Initial 5 Year Period	<u><\$6.0M></u>	
Total Maintenance Costs:		<u>\$24.0M</u>
Net Cost to Replace Escalators:		\$156.6M

Conclusion:

- \$6M maintenance cost savings does not justify \$156.6M replacement effort at this time.
- Maintenance offset costs are minimal because State mandated preventive maintenance hours cannot be reduced for new escalators and define a large portion of the level of effort expended by the maintenance contractor.

Assumptions:

- Construction cost ROM provided by Metro estimating department.
- Metro's oldest escalators are currently 13 years into the potential 25-30 year life expectancy for transit escalators.
- New American Public Transportation Association Standards and California State requirements would require Metro to first modify each escalator pit and ensure that each exterior unit is covered.
- The removal of existing escalators, the construction modifications to escalator pits, and the installation of new escalators would require a minimum of 5 years to complete to mitigate the impact to on-going rail services.
- A design/build approach would be ideal in eliminating multiple equipment makes, improving parts availability due to standardization, and the elimination of obsolete equipment.

BOARD REPORT ATTACHMENT C ESCALATOR SHUTDOWNS

- Vandalism, misuse and abuse of the equipment are a major cause of equipment downtime. One of the primary causes of constant escalator shutdowns is the tampering with escalator emergency stop buttons. In the event of an escalator shutdown caused by pressing the emergency button someone with an escalator key has to physically restart the unit by inserting the key in the unit key switch and turn it on. Escalator code prohibits remote restarting of escalators.
- Other misuse of the equipment that results in escalator shutdowns include: kicking the side skirt plates, carrying a heavy load on the unit, jumping up and down on the unit with force, sticking hands inside handrail inlets and at times willful damage of the equipment. Any of these acts often result in tripping one of the many code required safety switches installed in an escalator or results in crashing the unit. Once a safety switch is tripped, a mechanic has to physically open up the unit and reset the tripped switch. When an escalator crashes because of misuse, substantial damage may require days of maintenance until all damaged components are replaced. For example, a metal screw, coin, or a small metal object dropped on an escalator that gets lodged between the steps and comb plates could result in tread damage to every step in an escalator. Another common act of vandalism is when a knife or razor is used to slash the escalator handrails potentially taking the unit out of service for days. Our exterior escalator units are also subject to being intentionally shut down during rainy weather periods.
- Regularly scheduled preventive maintenance (PM) tasks performed by route mechanics typically take not more than 1-3 hours, except for annual overhauls, which may require 8-24 hours. To the extent possible, peak hours are avoided for performing PM. Nevertheless, when the public sees a unit that is taken out of service for PM, they assume equipment malfunction even though the unit was taken out of service to perform PM. The new contract will move all PM away from peak hours and a significant portion of it to after hours and weekends.