

Date: May 23, 2018

To: Board of Directors

From: Doug Kelsey

Subject: RESOLUTION 18-05-36 OF THE TRI-COUNTY METROPOLITAN TRANSPORTATION DISTRICT OF OREGON (TRIMET) AUTHORIZING A CONTRACT WITH SIEMENS INDUSTRY, INC. – MOBILITY DIVISION FOR DOOR SENSITIVE EDGE REPLACEMENT ON TYPE-2 AND TYPE-3 LRVS

1. Purpose of Item

The purpose of this item is to request that the TriMet Board of Directors (Board) authorize the General Manager to execute a contract with Siemens Industry, Inc. Mobility Division (Siemens) for Door Sensitive Edge Replacement on TriMet's Siemens Type-2 and Type-3 SD660 Light Rail Vehicles (LRVs) (Services).

2. Type of Agenda Item

- Initial Contract
- Contract Modification
- Other _____

3. Reason for Board Action

Board authorization is required for goods and services contracts obligating TriMet to pay in excess of \$1,000,000.

4. Type of Action

- Resolution
- Ordinance 1st Reading
- Ordinance 2nd Reading
- Other _____

5. Background

All of TriMet's Type-2 and Type-3 LRVS have a sensitive edge component as part of the door assembly. This sensitive edge allows the doors to "sense" when an obstruction is caught within the door's opening. This in turn recycles the door opening and guards against the possibility of trapping a passenger in the door portal.

The major components of this safety system are the rubber air bladder door edge, and the (wave) style air switch. This switch is extremely susceptible to breakdown issues during the months of May through September, when temperatures in the Portland metropolitan area are

at their highest. When the switch malfunctions the doors will not operate properly and could easily “trap” a customer, if that customer is standing within the door’s path. The defective switch can also cause the doors to repeatedly recycle, and not allow the vehicle to move. In addition, the rubber door bladder edge is frequently damaged, and will not send a message to the switch and the rest of the detection system that there is an obstruction trapped in the door. This not only creates a hazard to our passengers, but also initiates a mainline delay and creates more work for Rail Equipment Maintenance (REM). Also, because a door failure is safety-sensitive in nature, REM must take the LRV out of service to repair it, shorting its customer base of timely service, and removing much needed journey-level mechanics from other scheduled maintenance work. This contract with Siemens will alleviate antiquated design related breakdowns, and provide our riders a safer, more reliable commute.

This project is the result of an unsolicited proposal from Siemens to replace the bladder and (wave) air switches with tape switch components that are not sensitive to temperature changes or heat on seventy-nine (79) Type-2 and Type-3 LRVs (632 doors plus one car set as spares for 640 doors total). The project will reduce warm weather door defects as well as many other failures contributed to the inherent flaws of the old style obstruction detection system. This will save maintenance staff time, reduce in-service delays, and help maintain on-time performance.

Siemens successfully engineered a similar modification for another light rail property and TriMet wishes to benefit from this improvement, which is not available on the market. For TriMet to go out to bid for this modification, TriMet would have to develop the modification in-house, purchase the parts, install it on several LRVs and test it. However, the proposed modification is proprietary to Siemens and has already been successfully tested for another transit agency. TriMet avoids the costs associated with engineering its own modification for this issue. In addition, Siemens will supply the labor to install this modification, as TriMet is also short on mechanical staff, allowing TriMet to stay current on LRV fleet preventive maintenance and repair work.

Siemens’ price is \$14,000 per LRV (or \$1,750.00 per door), with the work starting within sixteen (16) weeks of contract execution. Siemens’ price includes engineering, labor and materials, and spares for one car set (eight doors). The price is deemed reasonable based on TriMet’s knowledge of the work needing to be done and pricing of the work done for the other transit agency. This modification will improve the performance of the Type-2 and Type-3 doors in warm weather and will last for the remaining 12-15 years of useful life of the cars. As a mid-life rebuild modification to the LRV door system, the work is eligible to contract out under TriMet’s labor contract with the ATU.

6. Procurement Process

This is an unsolicited proposal, sole-source contract. In accordance with TriMet policy, TriMet staff advertised the unsolicited proposal for thirty (30) days and received no other proposals. The specifics of Siemens’ modification to replace bladder air switches with tape switch components that are not sensitive to temperature changes or heat is proprietary; Siemens is the only industry provider of such a modification on its rail cars.

Staff has reviewed Siemens’ pricing for the proposed contract, and determined it to be fair, reasonable, and within market standards. The contract is a firm fixed price of \$1,120,000 for 640 doors. Staff considers the performance of Siemens during the course of past contracts to

be excellent, based on responsiveness, technical expertise, experience, and product quality and reliability.

7. **Diversity**

Siemens Industry, Inc. – Mobility Division’s workforce is 29.67% minority and 21.98% female. The total employee count of the division is 91. Siemens Industry Inc. – Mobility Division will perform the Services via the use of their own employees; they will not use subcontractors.

8. **Financial/Budget Impact**

The cost of \$1,120,000 is budgeted in the REM department’s operating budget for FY2019.

9. **Impact if Not Approved**

Staff has determined that pursuing the Siemens modification is the most cost efficient approach for fixing a recurring problem. If not approved, TriMet’s Type-2 and Type-3 LRVs will regularly experience issues with door performance, which requires them to be taken out of service. The primary benefit is reducing in-service delays and helping to maintain on-time performance.

RESOLUTION 18-05-36

RESOLUTION OF THE TRI-COUNTY METROPOLITAN TRANSPORTATION DISTRICT OF OREGON (TRIMET) AUTHORIZING A CONTRACT WITH SIEMENS INDUSTRY, INC. – MOBILITY DIVISION FOR DOOR SENSITIVE EDGE REPLACEMENT ON TYPE-2 AND TYPE-3 LRVs

WHEREAS, TriMet has authority under ORS 267.200 to enter into a contract with Siemens Industry, Inc. – Mobility Division for door sensitive edge replacement on TriMet's Siemens Type-2 and Type-3 SD660 LRVs (Contract); and

WHEREAS, the total amount of the Contract is expected to exceed \$1,000,000; and

WHEREAS, the TriMet Board of Directors (Board), by Resolution dated October 25, 2017, adopted a Statement of Policies requiring the Board to authorize goods and services contracts obligating TriMet to pay in excess of \$1,000,000.

NOW, THEREFORE, BE IT RESOLVED:

1. That the Contract shall be in conformance with applicable laws.
2. That the General Manager or his designee is authorized to execute the Contract in an amount not to exceed \$1,120,000.

Dated: May 23, 2018

Presiding Officer

Attest:

Recording Secretary

Approved as to Legal Sufficiency:



Legal Department