



Board Report

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Agenda Number: 32.

OPERATIONS, SAFETY, AND CUSTOMER EXPERIENCE COMMITTEE AUGUST 18, 2022

**SUBJECT: A650 HEAVY RAIL VEHICLE STATIC CONVERTER LOW VOLTAGE POWER
SUPPLY (LVPS) PURCHASE**

ACTION: CONTRACT AWARD

RECOMMENDATION

AUTHORIZE the Chief Executive Officer to award a 60-month, firm fixed unit price Contract No. OP82170000 to Kiepe Electric LLC for the purchase of forty-two (42) new Low Voltage Power Supply (LVPS) units of static converters in support of the A650 Heavy Rail Vehicle (HRV) fleet. The Contract's one-year base amount of \$472,306 (5 units), and the one-year option amount of \$1,470,195 (37 units), is for a total contract amount of \$1,942,501, inclusive of sales tax. This recommendation is subject to the resolution of any properly submitted protest(s).

ISSUE

The Original Equipment Manufacturer (OEM) can no longer overhaul these critical LVPS units due to the declining reliability of the LVPS technology transfer and parts obsolescence, necessitating the purchase of a new design static converter LVPS units. This procurement is for the purchase of forty-two (42) new LVPS units (5 Base and 37 Option) to allow for the continuation of overhaul services required for a thorough and complete overhaul of the A650 Fleet. Furthermore, the purchase of new units will achieve equipment safety, reliability, and performance standards in accordance with regulatory requirements and OEM specifications. This procurement will result in the least impact on the schedule and Metro resources to ensure fleet reliability and vehicle maintainability.

BACKGROUND

The Breda A650 HRV option-buy fleet consists of 37 married-pair vehicles and is currently in its 24th year of revenue service operations. This fleet is currently undergoing a Component Overhaul Program, overhauling five major systems including friction brake, traction motor, gearbox coupler, and LVPS equipment. The average per car mileage is 1.7 million miles with accumulated fleet mileage of 128 million miles and consistent reliability and safety record.

DISCUSSION

The LVPS is one of five vehicle systems within the Component Overhaul Program managed and performed by Rail Fleet Services staff. Other vehicle systems undergoing overhaul include coupler, friction brake, gearbox, traction motor, and semi-permanent coupler.

The LVPS equipment consists of low and high-voltage electronic components that convert traction supply power of 750 Vdc to 120 & 220 Vac for battery charging, emergency lighting, braking systems, and door operation supply source. The LVPS is considered vital and safety-critical equipment necessary to sustain the A650 fleet in revenue service operations in conjunction with the State of Good Repair (SGR) policy.

Rail Fleet Services (RFS) Engineering developed equipment overhaul specification(s) for all systems included in the Component Overhaul Program based on OEM recommendations and RFS maintenance experience. The contractor for the new LVPS units will design, manufacture, test, and implement the development of new LVPS equipment units in accordance with Metro's technical specifications within the defined schedule requirements.

DETERMINATION OF SAFETY IMPACT

The purchase of new LVPS equipment ensures vehicle battery charging levels for friction braking, emergency lighting, doors, and other vital systems. In the event of LVPS equipment failure, the vehicle safety systems are compromised and the vehicle will not operate.

FINANCIAL IMPACT

Funding of \$1,942,501 for 42 LVPS equipment units is included in the FY23 budget and \$11,000,000 is available for Component Overhaul Life of Project Budget (LOP) CP #206038. The delivery of the LVPS equipment is planned for the 2nd quarter of FY23 post contract award.

Impact to Budget

The current source of funds for the overhaul program and Consulting Services is Proposition A 35%. Staff will pursue additional federal funds that may become available for this project to maximize and conserve the use of local funding sources and/or debt.

Since multi-year projects are funding this recommendation, the Chief Operating Officer, Chief Program Management Officer, and respective Project Managers will be responsible for future fiscal year budgeting.

EQUITY PLATFORM

The Red and Purple rail lines utilize all of the heavy rail fleet vehicles in Metro's system. Based on the 2019 Customer Survey, the Red and Purple rail lines serve the following ridership:

- 27.7% below the poverty line
- 56.4% had no car available

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- Rider Ethnicity: Latino 38.9%; Black 13.1%; White 25.8%; Asian/Pacific Islander 15.2%; Other 6.5%

In addition, areas served include Union Station to Downtown LA, Koreatown (Wilshire/Western), Hollywood, Universal City, and North Hollywood, a majority of which serve people living in Equity Focus Communities.

No SBE or DVBE goals were established due to the lack of subcontracting opportunities.

IMPLEMENTATION OF STRATEGIC PLAN GOALS

The recommendation supports Metro Strategic Plan Goal 5) Provide responsive, accountable, and trustworthy governance within the Metro organization. New LVPS will ensure fleet and equipment reliability, minimize vehicle maintenance needs, and provide for safety for Metro's passengers in all operational modes.

ALTERNATIVES CONSIDERED

Due to the OEM's inability to repair or overhaul the LVPS equipment and to technology transfer and parts obsolescence, it is imperative to procure new LVPS equipment utilizing current technologies and parts that will support vehicle operations for vehicle operations an estimated 15 years. There are no alternatives to be considered.

NEXT STEPS

Upon Board approval, the contract awardee will begin the design, manufacturing, testing, and prototyping process as outlined in Metro's Technical Specification for new LVPS equipment. The Contractor shall provide a production schedule to identify milestones consistent with the scheduled delivery of the LVPS equipment.

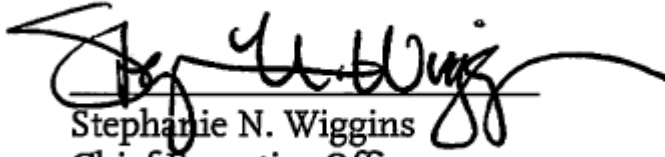
ATTACHMENTS

Attachment A - Procurement Summary

Attachment B - DEOD Summary

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Stephanie N. Wiggins
Chief Executive Officer

PROCUREMENT SUMMARY

LOW VOLTAGE POWER SUPPLY
CONTRACT NUMBER OP82170000

1.	Contract Number: OP82170000	
2.	Recommended Vendor:	
3.	Type of Procurement (check one): <input type="checkbox"/> IFB <input checked="" type="checkbox"/> RFP <input type="checkbox"/> RFP-A&E <input type="checkbox"/> Non-Competitive <input type="checkbox"/> Modification <input type="checkbox"/> Task Order	
4.	Procurement Dates:	
	A. Issued: 10/21/2021	
	B. Advertised/Publicized: 10/22/21	
	C. Pre-Proposal Conference: N/A	
	D. Proposals Due: 01/07/22	
	E. Pre-Qualification Completed: 2/2/2022	
	F. Conflict of Interest Form Submitted to Ethics: 1/14/22	
	G. Protest Period End Date: 08/22/22	
5.	Solicitations Picked up/Downloaded: 21	Bids/Proposals Received: 3
6.	Contract Administrator: Roxane Marquez	Telephone Number: 213-922-4147
7.	Project Manager: Richard Lozano	Telephone Number: 323-224-4042

A. Procurement Background

This Board Action is to approve Contract No. OP82170000 issued in support of Metro's A650 Heavy Rail Vehicle (HRV) to procure services in the design, manufacture and delivery of new Low Voltage Power Supply (LVPS) units. Board approval of contract award is subject to resolution of any properly submitted protest.

The RFP was issued in accordance with Metro's Acquisition Policy and the contract type is a Firm Fixed Unit Price.

Four (4) amendments were issued during the solicitation phase of this RFP:

- Amendment No. 1, issued on October 27, 2021, extended the Questions Due Date;
- Amendment No. 2, issued on November 1, 2021, extended the Questions/Answers and Proposal Due Date;
- Amendment No. 3, issued on November 19, 2021, clarified warranty requirements and project deliverables in the Statement of Work and extended the Proposal Due Date;
- Amendment No. 4 was issued on December 14, 2021, clarifying requirements on Form 60 and extended Questions Due Date.

A total of three (3) proposals were received on January 7, 2022.

1. AmePower, Inc.
2. Kiepe Electric, LLC
3. Powertech

B. Evaluation of Proposals

This procurement was conducted in accordance with LACMTA's Acquisition Policy for a competitive RFP using evaluation criteria and weighted factors. A Proposal Evaluation Team (PET) consisting of staff from LACMTA's Rail Fleet Services, Transit Vehicle Engineering and Quality Assurance convened and conducted a comprehensive technical evaluation of the proposals received.

The proposals were evaluated by the Proposal Evaluation Team (PET) based on the following evaluation criteria and weights.

- Technical Capability 30% percent
- Proposer's Work Plan 30% percent
- Past Performance and Experience 20% percent
- Price Proposal 20% percent

The evaluation criteria are appropriate and consistent with criteria developed for similar technical design and manufacturing of rail components. Several factors were considered when developing these weights, giving the greatest importance to Technical Capability and Work Plan.

On January 27, 2022, the Proposal Evaluation Team (PET) completed its independent evaluation of proposals. As a result of evaluations, the PET determined that of the three (3) proposals received, two (2) firms were determined to be within the competitive range. The two (2) firms within the competitive range are listed below in alphabetical order:

1. AmePower, Inc.
2. Kiepe Electric, LLC

Powertech was determined to be outside the competitive range and was no longer considered for further evaluation.

The two (2) firms within competitive range were contacted to answer questions, clarify Technical Proposals and approach to statement of work and qualifications. Each firm submitted team's qualifications and responded to the evaluation committee's clarifying questions. The PET reviewed and scored each firm's Technical Proposal in accordance with the technical requirements of the RFP, each firm's experience in relation to the required tasks, and reviewed each firm's commitment to the success of the project. Also reviewed were staffing plans, work plans, and perceived project

issues. Each firm answered questions relative to firm's previous experience in designing, manufacturing and implementing LVPS components.

Qualifications Summary of Firms within the Competitive Range:

KIEPE ELECTRIC LLC

Kiepe Electric LLC (formerly Vossloh Kiepe) was founded in 1906, following an acquisition by Vossloh AG. Vossloh sold Kiepe company to Knorr-Bremse in January 2017; and in May 2017 Knorr-Bremse renamed the company to Kiepe Electric.

Kiepe Electric LLC is a manufacturer of efficient and ecologically sustainable, electric power converters for light rail vehicles, metro vehicles, trolley buses as well as other road and rail vehicles. In addition, Kiepe Electric offers digital solutions for public transport like our Smart Fleet Charging Management (SFM) for electric buses and the Kiepe Fleet Management (KFM), which predicts the need for maintenance and repair.

Kiepe Electric is known for providing highly innovative and competent solutions in the field of traction equipment and LVPS for electrically driven vehicles. They also specialize in the modification of existing vehicles, as well as assembly, testing and commissioning.

Kiepe's Technical Proposal demonstrated thorough expertise in manufacturing electric power converters for rail vehicles and trolley buses with extensive experience in designing and implementing low voltage power supply units and has years of proven service. Project personnel demonstrated a strong understanding of Metro's requirements in their approach to the scope of work and meeting project deadlines.

The Technical Proposal demonstrated Kiepe's experience in all required tasks for the Statement of Work including pre-launch planning, reverse engineering, designing, testing and deployment planning that most importantly achieves meeting project goals and performance. An organizational chart identifying key personnel including the project manager, engineers, quality assurance staff, supervisory staff to be assigned to Metro's project was provided by the proposer outlining over 190 years of combined experience.

Kiepe's Technical Proposal was comprehensive, thorough in approach, and aligned with Metro's service goals and timelines. Kiepe illustrated a detailed strategy to achieve the performance standards through a test and inspection plan showing how to meet the requirements as outlined in the specification to achieve project success.

Most notably unique to Kiepe's expertise was witnessed by their past performance through the long list of experience in designing and implementing LVPS of similar size in multiple agencies for over the past five years.

AMEPOWER

AmePower is a Florida-based engineering company with over 20 years of experience specialized in delivering customized solutions improving the efficiency, performance, and reliability of High-Power Converters found in Rolling Stock (Traction Systems, APS, LVPS). AmePower offers complete repair and overhaul services for converters, auxiliary power supplies, high voltage power supply and battery chargers for mass transportation and wind power industries, with the ability to retrofit and perform contract manufacturing. Recently, AmePower added pre-designed converters and components as a part of their offering in 2021-2022.

AmePower's Technical Proposal offered a strong engineering team with extensive experience in repair and overhaul projects ranging from LVPS, auxiliary power supply overhaul, converter overhaul, and many other overhaul rail vehicle projects. AmePower distinctly featured a suite of rail overhaul component overhauls and experience as well as a well-design facility with numerous test bays.

However, the Technical Proposal failed to identify required experience in the design, manufacture and implementation of new low voltage power supply units for rail vehicles. AmePower possessed strong experience in complete converter repair and overhaul, but no experience in creating a LVPS unit from concept to implementation. Although AmePower demonstrated extensive knowledge and experience in repairing even obsolete equipment, this critical requirement is necessary in demonstrating success for the project. Metro's expectations for this procurement requires three years of past experience on the design and manufacturing of new LVPS equipment and Amepower failed to provide this experience.

The firm's approach to the statement of work aligned with the requirements of the RFP. The proposed team consisted of a number of qualified specialists including engineering experts. An organizational chart identified key personnel including the project manager, engineers, quality assurance staff, supervisory staff to be assigned to Metro's project was provided by the proposer outlining over 75 years of combined experience.

Overall, the Technical Proposal offered generally sound approach in providing a LVPS assembly but lack the ground-level design experience to build and manufacture a new LVPS with service-proven results that Metro requires for this project.

On March 15, 2022, the PET completed its independent evaluation of the proposals. As a result, the firms earned the following final scores with Kiepe Electric LLC ranking the highest firm to perform the project.

1	Firm	Average Score	Factor Weight	Weighted Average Score	Rank
2	KIEPE ELECTRIC LLC				
3	Technical Capability	80.63	30.00%	24.19	
4	Project Work Plan	80.00	30.00%	24.00	
5	Past Performance and Experience	85.00	20.00%	17.00	
6	Price	100.00	20.00%	20.00	
7	Total		100.00%	85.19	1
8	AMEPOWER INC.				
9	Technical Capability	71.25	30.00%	21.38	
10	Project Work Plan	77.50	30.00%	23.25	
11	Past Performance and Experience	49.98	20.00%	10.00	
12	Price	83.86	20.00%	16.77	
13	Total		100.00%	71.40	2

C. Price Analysis

The recommended price of \$1,942,501 has been determined to be fair and reasonable based upon an independent cost estimate (ICE), price analysis, technical evaluation, clarifications and negotiations.

	Proposer Name	Proposal Amount	Metro ICE	Negotiated or NTE amount
1.	Kiepe Electric LLC	\$1,957,170	\$1,595,000	\$1,942,501
2.	AmePower	\$2,333,796	\$1,595,000	\$2,333,796

The difference in ICE and negotiated amount is due to several factors. The ICE didn't account for LVPS assembly, Training and Engineering Fee, as well as shipping and travel costs. Additionally, the ICE was based on a previous industry quote which didn't account for recent increase in inflation, transportation/shipping costs, and covid-related supply chain delays which increased significantly since the development of the ICE.

D. Background on Recommended Contractor

The recommended firm, Kiepe Electric LLC, located in Alpharetta, Georgia has been in business for 116 years since their inception in 1906 and is a leader in the field of traction equipment and LVPS assemblies for light rail vehicles, metro vehicles, trolley busses as well as other road and rail vehicles. Recently, Kiepe Electric LLC performed

work for San Francisco MTA, Utah Transit Authority, Dayton Ohio RTA and Chicago METRA delivering up to 200 LVPS and battery charger systems for their railcars. Kiepe Electric's Project Manager has 42 years of experience, and the team has an accumulative experience of 190 years in designing, manufacturing, and delivering highly innovated and complex electronic systems for rail vehicles. Kiepe Electric LLC also specializes in the modification of existing vehicles, as well as their assembly, testing and commissioning. Kiepe Electric performs work across several countries, including Canada, United Kingdom, Belarus, Germany, Greece, Italy, The Netherlands, Norway, Poland, Taiwan and several other countries.

DEOD SUMMARY

**LOW VOLTAGE POWER SUPPLY
CONTRACT NUMBER OP82170000**

A. Small Business Participation

The Diversity and Economic Opportunity Department (DEOD) did not establish a Disadvantaged Business Enterprise (DBE) participation goal for this procurement due to the lack of subcontracting opportunities. It is expected that Kiepe Electric will perform the services with its own workforce.

B. Living Wage / Service Contract Worker Retention Policy Applicability

C. The Living Wage and Service Contract Worker Retention Policy is not applicable to this contract.

D. Prevailing Wage Applicability

Prevailing wage is not applicable to this contract.

E. Project Labor Agreement/Construction Careers Policy

Project Labor Agreement/Construction Careers Policy is not applicable to this Contract. PLA/CCP is applicable only to construction contracts that have a construction related value in excess of \$2.5 million.