March 2, 2016

Dear Sir/Madam:

Enclosed is Addendum No. 11 to SEPTA’s Request For Proposal No. 15-00063 - AJAC– Multi-Level Cab and Coach Rail Cars.

Addendum No. 11 must be acknowledged by signing the attached Acknowledgement Sheet and including that sheet as part of your technical proposal.

The due date and time for the submission of proposals scheduled for Tuesday March 15, 2016 by the close of business (4:30 PM) has been postponed until Tuesday April 5, 2016 by the close of business (4:30 PM).

Any inquiries regarding this bid must be directed to, James H. Coombs of the Procurement and Contracts Department at (215) 580-7190.

Thank you for your interest in the Authority.

Sincerely,

James Coombs
Manager, Rebuilding for the Future
Contract Administration
Procurement & SCM Department

James H. Coombs Jr.
Manager, Rebuilding for the Future
Contract Administration
Procurement & SCM Department
Addendum No. 11
March 2, 2016
Page 1 of 1

RFP No. RFP No. 15-00063-AJAC
Multi-Level Coach and Rail Cars

Addendum No. 11

To All Proposers:

The following constitutes Addendum No. 11 to SEPTA's RFP No. 15-00063-AJAC – Multi-Level Cab and Coach Rail Cars. Addendum No. 11 must be acknowledged by inserting the signed Acknowledgement Sheet provided with this Addendum. Include this sheet with your Technical Proposal. Failure to do so may render your proposal as non-responsive.

1. Addendum Acknowledgement Letter.
2. Questions and Answers (Q235-Q237)
3. RFP Addendum Tracker.
The attached Addendum No. 11 to the Contract Documents is hereby made part of the same and is incorporated in full as part of the Project.

Proposer should acknowledge Addendum No. 11 by signing and returning the Acknowledgement Sheet with the Technical Proposal.

**NOTICE**

The due date and time for the submission of proposals scheduled for Tuesday March 15, 2016 by the close of business (4:30 PM) has been postponed until Tuesday April 5, 2016 by the close of business (4:30 PM).

I hereby certify that the changes covered by this Addendum No. 11 have been taken into account in the total price of the proposal.

FIRM NAME (typed or printed)______________________________

AUTHORIZED SIGNATURE _______________________________  TITLE ____________________

NAME (typed or printed) ___________________________________   DATE_____________________

Addendum No. 11 includes:

1. Addendum Acknowledgement Letter
2. Questions and Answers (Q235-Q237)
3. RFP Addendum Change Tracker
4. Specification Page Changes (2 pages)
### Addendum No. 11

<table>
<thead>
<tr>
<th>No.</th>
<th>Specification Reference</th>
<th>Contract Reference</th>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>235</td>
<td>16.7</td>
<td>-</td>
<td>Does the Bench Test Equipment require to be supplied separately for each system or as an integrated universal one? It is not clearly in TS 16.7. Usually, there are two approaches to provide bench test equipment. One approach is allow subsystem manufacturer to provide separate BTE for their system respectively. Another approach is to consolidate bench test equipment and allow one special supplier to provide an integrated universal bench test equipment. Please clarify which approach SEPTA requires.</td>
<td>The Contractor may provide either approach as long as the hardware and software to test PC boards is provided and the equipment meets the requirements of TS 16.7.</td>
</tr>
<tr>
<td>236</td>
<td>19.4.6</td>
<td>-</td>
<td>Does the virtual reality simulator require to be supplied separately for each system or as an integrated one?</td>
<td>The Contractor may provide either approach as long as the equipment meets the requirements of TS 19.4.6.</td>
</tr>
<tr>
<td>237</td>
<td>10.3.1</td>
<td>-</td>
<td>IEEE1476 standard which is mentioned in TS 10.1 requires that min. load voltage is 46V in nominal output voltage of 64V. In addition, the TS 10.3.3 states that when voltage is lower than 45V, the vital loads shall be cut off to protect battery. Therefore, please clarify the lowest voltage is 25V or 46V when battery is off charge. This voltage will affect the number of battery and min. single voltage value and capacity.</td>
<td>The lowest voltage shall be 45V when the battery is off charge. The specification has been updated accordingly.</td>
</tr>
<tr>
<td>Change #</td>
<td>Subject</td>
<td>Specification Section</td>
<td>Page #</td>
<td>Change</td>
</tr>
<tr>
<td>---------</td>
<td>--------------------------</td>
<td>------------------------</td>
<td>--------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>1</td>
<td>Battery</td>
<td>TS 10.3.1</td>
<td>2</td>
<td>Changed lowest voltage to 45V.</td>
</tr>
<tr>
<td>2</td>
<td>Bench Test Equipment</td>
<td>TS 16.7</td>
<td>18</td>
<td>Added emergency stop button.</td>
</tr>
</tbody>
</table>
10.2.2 Locomotive M. U. Trainline
The 27 conductor locomotive control trainline described in TS 5.5 shall supply 74 VDC from the locomotive for traction control, sanding, alarm signals, indicators, etc.

10.2.3 Door Control and Communication Trainline
The 27 conductor door control and communication trainline described in TS 5.5 shall supply 74 VDC for car control functions.

10.3 LOW VOLTAGE POWER SUPPLY

10.3.1 Battery
Each car shall be provided with a nickel cadmium battery. In conjunction with power supplied through the battery trainlines, it shall support normal operation with the low voltage power supply output lost for at least 90 minutes before the voltage at any low voltage apparatus drops below 45 volts. In the event that catenary power is lost for any reason, the battery shall have capacity sufficient to maintain critical car functions (such as emergency lighting, marker lights and communications) operational for at least 90 minutes. In this instance no power availability from the trainlines shall be assumed and non-essential loads shall be shed to achieve this objective. In addition, the battery shall have the capacity to supply all low voltage power loads which exist when the car is inactive to a minimum of 45 volts (measured at the load) a minimum period of 80 hours. It shall also meet any other power requirements contained within this Technical Specification or resulting from the car design. In all cases an 85 percent of full charge level for a new battery shall be assumed as the initial condition. The battery shall be designed to deliver a minimum of 2,000 deep discharge cycles (to 1.0 volt or less per cell) without a permanent capacity loss greater than 20 percent which at a normal battery operating temperature of 77 degrees F shall have sufficient capacity to provide all 74 VDC car functions for not less than two (2) hours including 40 stops with a consist of one (1) cab and two (2) trailer cars. It shall have no less than a 100 ampere hour capacity at the five (5) hour rate. It shall be arranged in two (2) equally sized non-combustible trays.

The battery shall consist of a SAFT, Inc. type SRM, Hoppecke type FNC, or approved equal, nickel cadmium alkaline cells using sintered-type construction or approved equal. All cells shall be treated to resist corrosion or be of non-corrosive material. All cells shall have a minimum of 2.6 inches of electrolyte above the plates, with a liquid surface area equal to that of the top of the plate area. However, lower values may be accepted for cell types that can be proven to have inherently lower water loss under identical conditions. Cells shall use an approved transparent fire-retardant plastic material suitable for transit service. It is desired that watering intervals be no less than every six (6) months. Cells shall have a flip-top vent cap to permit topping up and allow electrolyte levels to be measured. The vent cap shall be flame-arresting and shall incorporate an anti-spray device. Battery connectors and connection hardware shall be corrosion resistant. All battery cells shipped to the Contractor, or supplied to SEPTA as spare parts, shall be properly configured for long term storage in unheated conditions.

Battery loads on all cars shall be connected in parallel through the battery positive and battery negative trainlines. The battery construction, identification, test methods, and battery connectors shall comply with APTA-PR-E-RP-007-98, APTA-PR-E-RP-009-98, and 49 CFR 238, and all standards referenced therein, except as otherwise indicated in this Specification.

The battery in normal service shall require water no more frequently than once every 92 days.
o. All electronics units not identified above

A red plunger button shall be included on the BTE to serve as an emergency stop button which shall safely remove all power from the BTE and the unit under test.

The Contractor shall provide drawings of the test equipment. Each piece of test equipment except for laptop PCs shall be accompanied with the complete diagrams, schematics, maintenance parts’ information, and calibration instructions for the device and its intended use and repair. These shall be supplied as part of the maintenance manuals.

The Contractor shall make all modifications to the test equipment specified herein which are required because of changes and modifications made to the vehicle or any of its systems or subsystems to meet the requirements of this Contract.

As part of the acceptance testing of the test equipment, the Contractor shall fully demonstrate the function of each type of test equipment being supplied once delivered and setup in the SEPTA shop facility. Bench test equipment shall test every printed circuit board used on the car.

### 16.8 PORTABLE TEST UNIT (PTU)

#### 16.8.1 General

The Contractor shall provide portable test units in the quantities identified in TS 16.8.2 for connection to vehicle systems and subsystems for diagnostic testing and software updating. Each portable test device shall include all required cables, connectors, and associated equipment required to interface with the car.

For all systems making use of a microprocessor, the portable test unit shall be a laptop PC computer as described in TS 16.8.2. The laptop PCs shall be standardized to perform testing for all vehicle systems using the one (1) standardized serial or USB or Ethernet cable and connection port throughout all car subsystems. All non-PC portable testers shall be delivered by the 20th production car.

All non-PC portable testers shall be rugged and suitable for the shop environment. They shall be supplied with a rugged shock absorbing carrying case. The quality of materials, wiring techniques, durability of face plate identifications, etc., shall be equal in quality and shall, as a minimum, make use of the same methods and materials as required for similar equipment on the cars. Weight shall not exceed 35 pounds. The design shall make use of quick disconnect multi-pin connectors meeting the requirements of TS 17.18.5 to establish all the connections required for utilization of the portable test devices. Power required for operation of the portable test devices shall be supplied by the car’s low voltage power supply. The portable test devices shall meet the requirements of TS 17.

There shall be no high voltage connections (greater than 150 volts) required between the car and any portable test device. It shall not be necessary to remove, dislodge, dismount, or disconnect any component, card, wire, chassis, terminal, or cable in order to perform periodic calibration or trouble diagnosis while using the portable test devices.