



May 22, 2026

Dear Proposers:

Attached is Addendum No. 8 to SEPTA's Request for Proposal No. 25-00300-AMJP  
- **Silverliner VI Rail Cars.**

The proposal due date and time scheduled for Friday, August 28<sup>th</sup>, 2026, at 04:30 PM remains unchanged. All proposals must be delivered to my attention by the closing date and time to be considered for the award. The proposals must be sent to SEPTA's General Offices, 1234 Market Street, 11<sup>th</sup> Floor, Philadelphia, PA 19107.

Any inquiries regarding this proposal must be directed to Michael Piselli of the Procurement and Supply Chain Management Department at (215) 580-8364 or [mpiselli@septa.org](mailto:mpiselli@septa.org).

Thank you for your interest in the Authority.

Sincerely,

*Michael Piselli*

Michael Piselli  
Manager, Contract Administration  
Procurement & Supply Chain Management

**Request for Proposal No. 25-00300-AMJP**  
**Silverliner VI Rail Cars**  
**Addendum No.8**

To All Bidders:

The following constitutes Addendum No. 8 to SEPTA's **25-00300-AMJP –Silverliner VI Rail Cars**. Addendum No. 8 must be acknowledged by inserting the date of the Addendum on the Addenda Response Form. Failure to do so may render a bid as non-responsive.

General:

1. Question and Answers (90-168) are attached.

May 22, 2026

ADDENDUM NO. 8

ADDENDUM ACKNOWLEDGEMENT SHEET

SEPTA's RFP No. 25-00300- AMJP  
**Silverliner VI Rail Cars.**

The attached addendum to the Contract Documents is hereby part of the same and is incorporated in full as part of the Project. Proposer shall acknowledge Addendum No. 8 by completing and returning the Addendum Acknowledgment Sheet with the Technical Proposal.

FIRM NAME: (typed or printed) \_\_\_\_\_

AUTHORIZED SIGNATURE: \_\_\_\_\_

TITLE: \_\_\_\_\_

NAME: (typed or printed) \_\_\_\_\_

DATE: \_\_\_\_\_

Addendum No. 8 includes:

1. Question and Answers (90-168) are attached.

No.	Reference	Question	Answer
90	13.9.2	<p>B. Displays shall be of a 16:9 aspect ratio and minimum 1920x1080p resolution, with minimum of <u>27-inch</u> viewing area,~</p> <p>C. 4. The interior graphical display message signs shall be <u>32 inches</u> measured diagonally or larger,~</p> <p>Question :Please clarify the size of the display.</p>	<p>The Technical Specification will be revised to indicate that the Carbuilder shall maximize the screen size at each location. References to specific sizes in TS 13.9.2 #B &amp; C will be removed.</p>
91	XX Contract Security	<p>As the Contractor is required to maintain the performance bond throughout the project, please confirm whether SEPTA intends to adjust the required bond amount according to the percentages specified for each milestone, rather than requiring the full contract sum at the outset.</p> <p>For example, when 10% activity is achieved, please confirm 25% is accounted for the total amount instead of 35%.</p> <ul style="list-style-type: none"> <li>• 10% of the Contract Sum from NTP until first Final Design Review submission.</li> <li>• 25% of the Contract Sum from first Final Design Review submission and until acceptance of the Pilot Rail Car (s).</li> <li>• 15% of the Contract Sum from acceptance of the Pilot Rail Car (s) and until delivery and acceptance of the last Rail Cars, including Option Rail Cars, if elected.</li> <li>• 5% of the Contract Sum from acceptance of the last Rail Cars, including Option Rail Cars, if elected until completion of the three (3) year warranty period.</li> </ul>	<p>For consistency, XX will be amended to adjust the contract sum from NTP until Final Design Review submission from 10% to 30%. SEPTA notes that the performance bond is intended to decrease as the project progresses and is not cumulative.</p>
92	15.4.7.2.A	<p>2. The peak-to-peak displacement anywhere on the motor shall not exceed 0.0015-inch (0.0381 mm) when the motor is detached and supported on resilient mounting providing at least 0.25-inch (6.35 mm) static deflection, while the motor is rotating at any and all speeds between 50% and 100% of maximum normal operating speed.</p> <p>- In IEC 60349-2, the vibration measurement method for traction motors is specified to be in accordance with IEC 60034-14. For peak-to-peak displacement measurement, would it be acceptable to measure and verify the vibration at three locations on the drive end and three locations on the opposite drive end, as specifeid in the standard?</p>	<p>Using three measurement locations on each end as described is acceptable for the intended purpose. The specification will be modified to refer to IEC 60349-2.</p>
93	14.10.2 15.7.5.2	<p>14.10.2 Thermal</p> <p>A. The thermal insulation system shall limit heat transfer of the completed car shall not exceed a maximum of 700 BTU's/hour/oF (372.7 W/°C), measured in accordance with Section 15, Test Program.</p> <p>15.7.5.2 Heat Transfer: UA Factor Determination</p> <p>A.</p> <p>Perform the test at an ambient temperature between -20°F and 25°F (-29°C and -4°C) with the evaporator blowers shut down and all external grilles blocked. Internal heating shall be supplied by the car heated floor (if applicable) and sidewall heaters. No additional space heaters shall be applied.</p> <p>Question) Meeting the UA value of 700 BTU/hr.°F for heat transfer using on-board floor heaters is an extremely challenging requirement. Regarding the heat transfer requirements, we would like to propose the following based on EN 14750 (Category R, Local Winter Zone III)</p> <p>- UA Value Adjustment:</p> <p>We request to revise the target UA value to 860 BTU/hr.°F, which aligns with standard regional rail insulation levels (K=1.8[W/m2.K]).</p> <p>Testing Method: Following EN 14750 Test Method 2(isolated HVAC system), we request to use separate auxiliary heaters and fans for the evaluation.</p> <p>Alternative: If separate heaters are not permitted, we kindly ask for approval to conduct the assessment using only the on-board under-seat heaters.</p>	<p>The request to revise the maximum UA value from 700 BTU/hr-F to 860 BTU/hr-F at this point is rejected at this time. The Technical Specification will be updated to allow for alternate UA values to be proposed. SEPTA will consider these alternate values once the Carbuilder is able to provide additional design details and sufficient justification (i.e., ASHRAE Standard Guide 23) to adequately evaluate the proposed alternative.</p>
94	16.22.2.2.1 16.22.3	<p>Cable's insulation flammability test and smoke test method mentioned in the Technical Specification is the requirement of the previous NFPA-130(2007 version) standard. Since this requirement does not match the verified fire performance of railcar cable manufacturers, we propose the FT4/IEEE 1202 exposure of UL1685 standard for flammability and smoke test method and criteria values in accordance with the latest NFPA-130(2023 version).</p>	<p>This interpretation is correct. Technical Specification will be revised to reference Section 23.2.8.</p>
95	Section 14.4.6 Cushions, 5.a.	<p>5.a. of Section 14.4.6 lists the back cushion assembly be a "combination of chloroprene latex and polyurethane foam." As a manufacturer of this type of cushioning, this is not the proper description of the intended material being called out for this application. Will SEPTA replace this outdated description with the proper verbiage, "low-smoke neoprene compound cushioning" for 5.a.?</p>	<p>The Technical Specification will be revised to state seat cushion material shall be low-smoke flexible silicone foam or Approved alternative.</p>

96	21.9	<p>Submission Timing Inquiry: Reliability and Availability Demonstration Plan</p> <p>We require confirmation regarding the submission date for the Reliability and Availability Demonstration Plan.</p> <p>We propose that the submission of this document be scheduled during the T&amp;C (Test and Commissioning) phase, as its submission is most effective and practical when synchronized with the submission of the Test Plans (FAT, SAT), which are developed after the final design is confirmed.</p> <p>Therefore, we propose submitting the Reliability and Availability Demonstration Plan during the T&amp;C (Test and Commissioning) phase.</p>	<p>Rejected. None of the requirements for the Reliability and Availability Demonstration Plan require completion of the Test Plans. Carbuilder may revise and resubmit the plan at any time.</p>
97	15.2.1.A.1	<p>Regarding Requirement 15.2.1.A.1, should I understand 'compliance with RAMS requirements' as verifying and Validation the requirements identified through RAMS activities through testing?</p>	<p>Yes. The RAMS requirements in Section 21 and 23 are verified through analysis and testing. Testing is explicitly required for certain items (e.g., Reliability/Availability Demonstration Test, FST Material Testing, Floor Fire Barrier), additional testing will be used to provide evidence as part of the safety certification process.</p>
98	1.11	<p>In this context, Average Speed is defined as the total distance traveled divided by the trip duration. To perform an accurate Reliability Analysis, we require the quantitative value of this metric. Please provide the average travel distance and average trip duration for this project so that we can calculate the applicable Average Speed for our reliability calculation</p>	<p>The Specification will be updated to provide average speed of 27.5mph only for the use of reliability calculations.</p>
99	23.1.3.A.2	<p>Our Safety Program Plan requires compliance with MIL-STD-882. Could you please clarify which specific version of MIL-STD-882 we must comply with? For instance, is it MIL-STD-882C?</p>	<p>CM: TS 23.1.3.A.2 will be changed as: "...for Commuter Railroads, and also of Military Specification MIL-STD-882E - Section 4 and all tasks within..."</p> <p>Where not otherwise stated, the latest version of MIL-STD-882 shall prevail.</p>
100	21.6.4	<p>Regarding the assignment of one full-time reliability specialist to SEPTA's maintenance facilities, can we propose that a reliability specialist attend meetings when there are issues identified through the "RAM Review Board" or when there is a major agenda item, such as a dispute resolution under TS 21.6.3.1?</p> <p>The reasons are as follows:</p> <ol style="list-style-type: none"> <li>1. A Customer Service (CS) Engineer equipped with specialized failure diagnosis capabilities serves as the primary on-site personnel, collecting all failure data and managing it through immediate action.</li> <li>2. A dual system where the on-site CS Engineer collects data according to proven formats, while the Reliability Specialist at headquarters precisely analyzes it to identify trends, can lead to more systematic FRACAS activities.</li> <li>3. Instead of deploying a specialist to every minor failure, concentrating their deployment on major reliability issues or systemic issues through the RAM Review Board can accelerate the resolution process.</li> </ol>	<p>The specification will be updated to require the RAMS specialist to arrive to investigate on-site issues within one week of the request of the RAM review board.</p>
101	21.5	<p>Request for information on MTTR allocation criteria for parts other than those not assigned in Table 21-4</p>	<p>Regarding the parts not listed in Table 21-4, the Contractor shall establish MTTR criteria values based on a reliability methodology consistent with the overall system MTTR requirements. The allocation shall be considered of component function, failure mode, maintainability design features, and industry practices. The Contractor shall submit the proposed MTTR values for SEPTA's review and approval to ensure alignment with maintainability objectives.</p>
102	21.9	<p>"Submission Timing Inquiry: Maintainability Demonstration Plan</p> <p>We require confirmation regarding the submission date for the Maintainability Demonstration Plan.</p> <p>We propose that the submission of this document be scheduled during the T&amp;C (Test and Commissioning) phase, as its submission is most effective and practical after the final design is confirmed.</p> <p>Therefore, we propose submitting the Maintainability Demonstration Plan during the T&amp;C (Test and Commissioning) phase."</p>	<p>Rejected. None of the requirements for the Maintainability Demonstration Plan require completion of the Test Plans. Carbuilder may revise and resubmit the plan at any time.</p>

103	3.3.1 C, 4.2.2 B & C	<p>We have identified a critical discrepancy between the carbody/anti-climbing specification and the mechanical coupler requirements regarding the acceptance criteria for vertical loads:</p> <ol style="list-style-type: none"> <li>1. 49 CFR 238.205 &amp; Section 3.3.1 C of the Technical Specifications: According to 49 CFR § 238.205, the anti-climbing mechanism must resist an upward or downward vertical force of 100,000 pounds "without permanent deformation" (Yield Strength basis).</li> <li>2. Section 4.2.2 B and C of the Technical Specifications: Conversely, the specifications for mechanical couplers and drawbars state they shall withstand the same 100,000-pound vertical load "without failure" (Ultimate Tensile Strength basis).</li> </ol> <p>This creates a conflicting standard for the same loading condition within the same integrated system.</p> <p>To ensure full compliance with federal safety standards and design consistency, please provide clear guidelines on the following:</p> <ol style="list-style-type: none"> <li>1. Alignment of Criteria: Should the criteria for the entire coupler and drawbar system (including the anti-climbing function) be aligned with 49 CFR 238.205 to meet the "without permanent deformation" requirement?</li> <li>2. Scope of Application: If the "without failure" criterion is intended specifically for the coupler's internal mechanical components, does the "without permanent deformation" requirement still strictly apply to the carbody interface and support structures (e.g., coupler carrier, mounting brackets, and carbody attachment points)?</li> <li>3. Priority of Specification: In the event of a conflict between the functional requirements of the coupler (Section 4.2.2) and the federal anti-climbing regulations (Section 3.3.1), which requirement takes precedence for the final design validation?</li> </ol> <p>We request your confirmation on the specific strength basis to be applied to both the coupler assembly and its respective carbody interfaces.</p>	<ol style="list-style-type: none"> <li>1. The portions of the coupler/drawbar system that are part of the anti-climbing load path shall satisfy the upward or downward vertical loading requirement of 100,000 pounds "without permanent deformation".</li> <li>2. This requirement applies to the carbody interface and support structure associated with the anti-climbing function, including the coupler carrier, mounting brackets, carbody attachment points.</li> <li>3. In the event of any inconsistency, the applicable federal safety requirement and the corresponding anti-climbing requirement shall take precedence over a less stringent internal component criterion.</li> </ol>
104	3.2.1 C	<p>[Inquiry 1] Clarification on the Definition of "Production Shell"</p> <p>The current requirement specifies that "each production shell shall have traceability to the mill certifications." To ensure precise alignment with the Authority's expectations, we request a formal clarification regarding the scope of a "Production Shell."</p> <p>Does this requirement apply specifically to the Primary Structural Members? Does the scope also encompass secondary members and non-structural components?</p> <p>[Inquiry 2] Proposal for Optimized Traceability Methodology</p> <p>If the traceability requirement is intended for primary structural members, we propose streamlining the process by utilizing our established quality assurance framework in lieu of individual part-to-mill mapping:</p> <p>Material Verification (CDRL 03-02): As per the Material Specification (CDRL 03-02), all fabrication materials undergo rigorous pre-verification to ensure mechanical and chemical properties consistently exceed Technical Specifications and ASTM Standards.</p> <p>Design Documentation: Comprehensive data, including material type, grade, and thickness for each component, is strictly maintained and reflected on the Approved Production Drawings.</p> <p>Justification for Optimization: Given that material integrity is fully ensured through stringent receiving inspections and adherence to approved drawings, we believe the proposed method provides equivalent oversight. This approach would allow for greater operational efficiency while maintaining the high standards of quality required for the project.</p> <p>[Request for Confirmation]</p> <p>We kindly request the Authority's confirmation on whether the use of Approved Drawings and CDRL 03-02 verification may be accepted as a valid alternative to</p>	<ol style="list-style-type: none"> <li>1. SEPTA defines primary structure as any member included in the FEA or in a manual structural analysis, and/or included on the test specimen. The primary structural members of each production shell shall meet requirement for traceability to mill certificate. The secondary members and non-structural components are not necessary to provide mill certificate.</li> <li>2. Rejected.</li> </ol>
105	3.3.3.5 A	<p>The specification requires that when a car is on its side, one emergency access location must be situated wholly within each half of the roof (divided left from right). This implies a requirement for offset positioning relative to the roof centerline.</p> <p><b>[Inquiry]</b></p> <p>To optimize the structural integrity and interior layout of the carbody, we would like to clarify if emergency access located on the roof centerline would be acceptable, provided it remains accessible and functional in a side-rollover scenario.</p> <p>If the requirement strictly mandates separate locations for the left and right halves, please confirm if this is intended to ensure accessibility regardless of which side the car falls on, or if there are specific spatial constraints we should consider. We believe a centralized design could offer equivalent safety while simplifying the structural configuration.</p>	<p>Emergency access locations must comply with 49CFR238.123; Refer to figure 3 for clarity on the requirement.</p>

106	3.3.3.5 C	<p>The specification mandates that the space directly below emergency roof access locations must be "free from all obstructions and secondary structure." To ensure a design that satisfies both emergency accessibility and vehicle performance standards, we request clarification on the following:</p> <ol style="list-style-type: none"> <li>1. Scope of "All Obstructions": We understand this requirement is intended to prevent rigid mechanical or structural elements from blocking emergency ingress/egress. However, to meet the T/S requirements for HVAC efficiency, Acoustic Performance, and interior finish, essential materials such as thermal/acoustic insulation and the interior ceiling panels could be installed in these areas.</li> <li>2. Proposed Interpretation &amp; Solution: We propose that "obstructions" be limited to rigid, non-penetrable structural or mechanical components. Non-rigid materials will be managed as follows: <ul style="list-style-type: none"> <li>- Thermal Insulation: Will be lightweight and easily penetrable/removable by hand or tools.</li> <li>- Interior Ceiling Panels: These panels will incorporate break-away features, perforation lines, or quick-release mechanisms that allow emergency personnel to quickly and easily push through or remove the panel during an emergency.</li> <li>- Cable tray &amp; Air duct</li> </ul> </li> <li>3. Performance Trade-off: Interpreting "free from all obstructions" literally (i.e., leaving the area completely empty) would create thermal bridges and lead to potential condensation issues, conflicting directly with the carbody's environmental performance requirements.</li> </ol> <p>Does the Authority concur that easily removable/penetrable interior materials (insulation and ceiling panels with break-away features) do not constitute "obstructions" under this requirement, provided they do not physically impede or significantly delay the emergency access process?</p>	<p>Proposer's interpretation is correct. The cavity can contain non-rigid materials. It must meet size requirements and be free of any secondary structure which would require additional effort to access vehicle.</p>
107	4.2.2 F & CDRL 04-02	<p>Pursuant to the requirement to provide calculations for the tensile, buff, lateral, and vertical load capabilities of the coupler system (CDRL 04-02), we have identified that specific criteria for <b>lateral loads</b> are not defined in the current specification.</p> <p>To ensure the analysis is performed accurately and meets 2026 safety standards, we request the following information:</p> <ol style="list-style-type: none"> <li>1. <b>Detailed Load Criteria:</b> Please provide the specific <b>lateral load values (force)</b> and the corresponding <b>acceptance criteria</b> (e.g., yield strength vs. ultimate strength, or maximum allowable deflection) that must be applied to the coupler system.</li> <li>2. <b>Application Scope:</b> Does the requirement for lateral load analysis apply exclusively to the Automatic Couplers (Front-end), or is it also required for the Intermediate Couplers (Drawbars) between the cars?</li> </ol> <p>A clear definition of these parameters is essential for the completion of the Coupler Load Analysis. We look forward to your guidance on these technical specifications.</p>	<ol style="list-style-type: none"> <li>1) While this performance-based specification does not define specific lateral loading requirements for coupler validation, it requires the Contractor to submit a comprehensive strength analysis for the Purchaser's review and approval. This analysis must demonstrate the coupler's overall capability, including its capacity to withstand all loads expected in service with sufficient margins of safety.</li> <li>2) This lateral requirement applies to both the Automatic Coupler and the Drawbar (Intermediate Coupler).</li> </ol>
108	3.3.1.2 D	<p>Regarding the requirement for 'No shims' on equipment hangers, we would like to align this with the FEA criteria specified in the Technical Specifications Section 3.5.2 11 to ensure technical consistency:</p> <ol style="list-style-type: none"> <li>1. Integration with T/S FEA Criteria: The Technical Specifications Section 3.5.2 11 mandates that 'all interior fittings and vehicle equipment over 150 lbs shall be analyzed and provided with their respective mass and locations.'</li> <li>2. Proposal for 'No Shim' Scope: To maintain a consistent management standard, we propose to apply the 'No Shim' requirement strictly to these items (over 150 lbs). These components are structurally significant and subject to FEA, justifying the need for direct metal-to-metal contact without shims.</li> <li>3. Exceptions Based on Reaction Force and Approval Process: Low Reaction Force: Even for equipment exceeding 150 lbs, if the Reaction Force at each individual fitting point is confirmed to be below a certain threshold (e.g., under 'X' kN) through FEA, could the use of liners or shims be permitted? If the load per fitting point is minimal, the risk of shim-related displacement or loosening is negligible, allowing for better alignment with carbody tolerances. Case-by-Case Consultation: For specific locations where shims are deemed functionally necessary, we propose that the use of shims may be coordinated and finalized through an appropriate approval process with the Authority.</li> <li>4. Exception for Lightweight Items: For interior/outfitting items under 150 lbs (which are not subject to the same FEA reporting), may we use liners or shims? This is necessary to compensate for inevitable carbody manufacturing tolerances and to ensure the quality of the interior finish. Could you please confirm if this alignment between the FEA threshold and the 'No Shim' rule is acceptable?"</li> </ol>	<p>The Carbuilder proposed alignment between "no shim" and the FEA criteria is rejected. Carbuilder shall integrate all design tasks interface to achieve proper fit and alignment with 'no shim' beforehand, including lightweight and low reaction force items. If there is exception for rectification, it shall be applied for justification and Approval.</p>

109	3.3.1.2 E	<p>Regarding the requirement forbidding unauthorized alterations (drilling, cutting, welding, etc.) to the carbody structure after FDR, we would like to clarify the application scope for secondary members:</p> <p><b>1. Management of Secondary Members:</b> While primary structural drawings are finalized at FDR, secondary members (internal frames/stiffeners/brackets) often require minor adjustments or onsite processing during the outfitting stage to accommodate equipment installation. Since these details may not be fully captured in the FDR-level assembly drawings, we seek clarification on whether written approval is mandatory for every minor alteration to these secondary components.</p> <p><b>2. Proposed Streamlined Process:</b> To ensure production efficiency, we propose that alterations to secondary members—which do not affect the carbody's load-carrying capacity or structural integrity—be managed through internal quality records rather than a formal approval process for each instance.</p> <p>Could you please confirm if this requirement is strictly intended for the Primary Load-carrying Structure, or if it must be applied to every internal secondary frame as well?</p>	<p>1. After FDR, the proposed alteration for secondary members including drilling, cutting, welding shall be submitted for review and Approval. While it is understood that there may need to be adjustments to the design due to findings during the pilot car manufacture, components of any kind should not be installed onto any shell without approved drawings.</p> <p>2. The minor fit-up or installation adjustment which do not change the approved structural design, and structural integrity may be proceeded through QC internal quality records, but the record shall be kept in the car history book.</p>
110	2.15	Please provide "Amtrak A-60-7659, rev B : Max Harmonic Current Levels Drawing". It is not available for direct download through public websites.	The drawing can not be provided by SEPTA until NTP.
111	10.9.3	<p>Ratings</p> <p>A. Forced cooled or drip proof self-ventilated traction motors proposed for this service shall be capable of meeting all the requirements of this specification while not exceeding 155 degrees C rise at any point in the machine. Shaft and bearing temperatures shall be well within recommended limits for the lubricants.</p> <p>- Please clarify that the specification calls for an IP22 (Self-ventilated Drip-proof) motor and that a Totally Enclosed structure is not necessary?</p>	Section 10.9.2 does not require a TEFC motor be provided; however, both options (drip-proof self-ventilated and TEFC) are acceptable given they comply with the associated specification requirements. Section 10.9.2 will be updated to remove any ambiguity.
112	13.3.A	<p>Please confirm whether our understanding of this requirement is correct, or provide further clarification.</p> <p>1) Future changes shall be limited to the warranty period</p> <p>2) All modification work will be performed by a communication contractor to guarantee system performance after any changes.</p>	TS 13.3 #A6 means that there shall be no fees, licenses, or other costs to make modifications to the communication system. Such modifications are defined elsewhere in the specification.
113	10.21.2 E	<p>General</p> <p>The transformer shall meet all the requirements of the latest revision of ANSI C57.12.00.</p> <p>- Globally, transformers for railway vehicles comply with the IEC 60310 standard, and the ANSI C57.12.00 standard is for oil-filled distribution transformers or power transformers. Therefore, only parts of the ANSI C57.12.00 standard can be satisfied.</p>	Technical Specification references to ANSI C57.12.00 and C57.12.90 will be updated to reference IEC 60310.
114	10.21.6 D	<p>Core And Windings</p> <p>Ceramic button separators, or approved equal, shall be placed between the windings to absorb heat, and dissipate it into the coolant to eliminate potential hot spots.</p> <p>- General main transformers manufacture is used cooling duct made by aramid or pressboard, or approved equal that will be placed between the windings to absorb heat, and dissipate it into the coolant to eliminate potential hot spots.</p> <p>Ceramic button separators were not applied in Septa V either.</p>	Accepted, the specification will be adjusted accordingly.
115	10.21.6 I	<p>Core And Windings</p> <p>All non-metallic nuts shall be locked with epoxy cement.</p> <p>- General main transformers manufacture is used that All non-metallic nuts will be locked with glued inside the main transformer</p>	TS 10.21.6 #I will be modified as follows "All non-metallic nuts shall be locked with <del>epoxy cement</del> <b>Approved adhesive</b> ".
116	10.21.6 K	<p>Core And Windings</p> <p>Full nylon insert nuts are preferred, where possible.</p> <p>- Using full nylon insert nuts is not preferred. The method of securing the core and windings varies by manufacturer (type of core). manufacturer will apply its own technology.</p>	TS 10.21.6 #K will be deleted.
117	10.21.7 A	<p>Impedance and Magnetizing Current</p> <p>1. The minimum transformer impedance shall be 4 percent at 25 Hertz using the primary winding kVA as a base and considering each winding to every other winding.</p> <p>- In railway vehicles, impedance affects the control of the propulsion control unit, so it can vary depending on the interface design with the propulsion control unit. In addition, the typical impedance proposed by manufacturers is 15–20%.</p>	TS 10.21.7 #A will be modified as follows: "The <del>minimum</del> transformer impedance shall be <b>selected to satisfy power circuit performance and fault protection requirements</b> <del>4 percent at 25 Hertz using the primary winding KVA as a base and considering each winding to every other winding</del> "

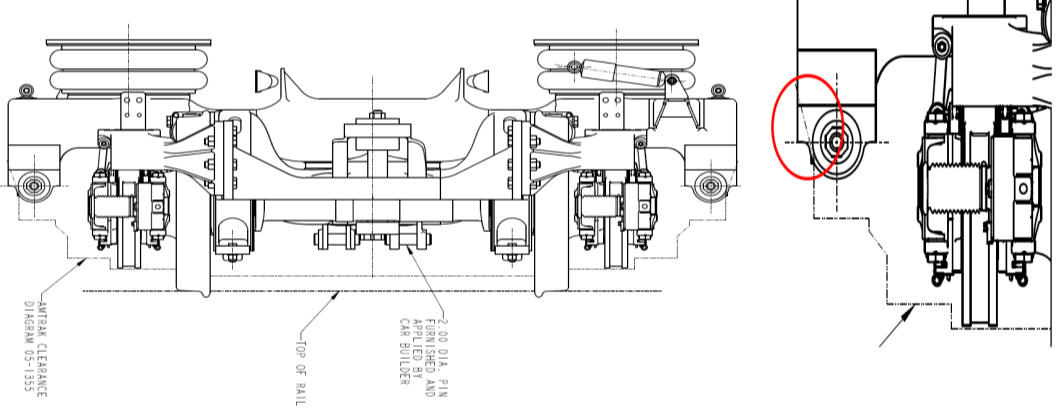
118	10.21.8 A	Transformer Tank The transformer tank shall be of sound, welded steel construction, designed for a full vacuum and capable of withstanding a pressure of 15 psig for 12 hours without leaking or any permanent deformation. - A major railway transformer supplier suggested that a full vacuum design would not be applied to the tank design. This design is unnecessary and could affect weight increase.	TS 10.21.8 #A will be modified as follows: "The transformer tank shall be of sound, welded steel construction, designed for a full vacuum and capable of withstanding a pressure of 15 psig for 12 hours without leaking or any permanent deformation. <b>Alternatives to a full vacuum design may be proposed for Approval.</b> "
119	10.21.8 B	Transformer Tank The tank shall be provided with two self-resetting type relief valves, set at 14.22 psig pressure, located, and arranged in such a manner as to avoid the possibility of escaping coolant coming in contact with passengers or undercar apparatus. The reset pressure of the relief valve shall be 0 psig pressure. - A self-resetting pressure relief valve equipped with two micro switches is installed; we recommend that the valve opens at 10 psi (0.7 bar) and closes by spring force when the pressure is relieved. (※ The reset pressure of the relief valve may not be 0 psig pressure.)	TS 10.21.8 #B will be modified as follows: "The tank shall be provided with <del>two</del> self-resetting <del>type</del> <b>pressure</b> relief valves, set at <del>14.22 psig</del> <b>an Approved</b> pressure, located, and arranged in such a manner as to avoid the possibility of escaping coolant coming in contact with passengers or undercar apparatus. <del>The reset pressure of the relief valves shall be 0 psig pressure.</del>
120	10.21.8 C	Transformer Tank All cover plates and appurtenances shall be secured with elastic stop nuts where attached with fasteners. - Depending on detailed design, all cover plates and appurtenances could be secured with elastic stop nuts or breaking washers where attached with fasteners.	TS 10.21.8 #C will be modified as follows "All cover plates and appurtenances shall be secured with elastic stop nuts where attached with fasteners <b>or as approved.</b> "
121	10.21.8 E	Transformer Tank 2. Gauges shall be provided for measuring the coolant pressure and for checking coolant pump rotation. - Oil flow sensor will be installed and it will detect the coolant pressure and for checking coolant pump operating. But oil flow sensor will not measure the flow rate.	This question is unclear as it mentions a flow sensor will "measure pressure". Clarification required.
122	10.21.8 F	Transformer Tank 1. The RTD shall be copper platinum with a resistance of 100 - The RTD is platinum with a resistance of 100 Ohms @ 0 Celsius degree.	Requirement remains unchanged at this time.
123	10.21.9 E	Cooling System An interlock shall be provided to remove all traction power and normal (non-layover) heating loads when the coolant pump and fan motors are not receiving electrical power. - If the oil pump does not operate, all loads are cut off, and in the case of the cooling fan, all loads are cut off when the CB is tripped; however, if the cooling fan does not operate due to a cause other than the CB tripping, there is no separate interlock system. However, if the cooling fan does not operate, it directly affects the oil temperature of the main transformer, and an interlock system is implemented to limit the traction power or cut off the all load as the oil temperature of the main transformer rises excessively.	TS 10.21.16 #B, C, D will be consolidated as follows: Protection and fault annunciation shall be provided, including appropriate sensing devices and interlocking to reduce or remove transformer loading as dictated by the fault severity for: a. Loss or insufficient cooling oil flow. b. Oil pressure outside of acceptable range. c. Heat exchanger fans not operating. d. Cooling oil overheating. e. Excess gas generation from dielectric failure and similar causes. Transformer loading reduction in response to the fault conditions shall prioritize to the extent possible retention of battery charging and layover heat loads. TS 10.21.9.E will be deleted.
124	10.21.11 B	Heat Exchanger It shall consist of fabricated copper tubing, using high thermal efficiency straight copper fins allowing line of sight airflow with a minimum spacing of 0.125 inch. - Recently, most suppliers of railway rolling stock coolers have been supplying only aluminum coolers instead of copper ones. Furthermore, the companies supplying main transformers to our company do not handle copper coolers. And, it is difficult to specify the precise spacing of the cooler fins. Aluminum coolers also offer high thermal efficiency and are designed and manufactured to ensure sight airflow.	TS 10.21.9#E will be adjusted as follows: "It shall consist of <del>fabricated</del> <b>aluminum or</b> copper tubing, using high thermal efficiency straight <b>aluminum or</b> copper fins allowing line of sight airflow with a minimum spacing of 0.125 inch."

125	10.21.11 H	<p>Heat Exchanger</p> <p>The coil housing shall have hinged panels to provide full access to the total face area of both sides to facilitate the cleaning of the coil.</p> <p>- Now a day, main transformer coolers for railway vehicles are not designed or manufactured with hinges that allow easy access from both sides.</p> <p>Normally, full access is provided from one side for cleaning, while the opposite side is connected to the cooling fan housing. Therefore, cleaning is performed by sweeping the surface with a brush followed by vacuuming, or by using compressed air to blow air toward the cooling fan exhaust.</p> <p>If it is unavoidable to clean or inspect the side connected to the cooling fan housing, access is possible by detaching the cooling fan housing (assembled with bolts). but <u>manufacturer will not recommend at normal condition.</u></p>	<p>TS 10.21.11 #H will be modified as follows: "The coil housing shall <del>have hinged panels to provide full access to the total face area of both sides to</del> facilitate the cleaning of the coil <b>without requiring removal from the vehicle ."</b></p>
126	10.21.12 K	<p>Cooling Fans</p> <p>Each multiple blade impeller fan shall be constructed of UV stabilized, long-life, high-density polypropylene which is die cast to a true airfoil shape or other approved corrosion resistant design, directly connected to the fan motor using a piloted connection.</p> <p>- We recommend to use aluminum impeller or steel with painted impeller. it design can sustain higher temperatures. Composite(polypropylene) impeller can normally reach +80°C (176°F) with is not enough for our application. Because the air temperature after the cooler is often greater than 80°C (176°F).</p>	<p>The specification does not preempt the proposed solution. Details are subject to design review</p>
127	10.21.12 M	<p>Cooling Fans</p> <p>The shaft mountings and all hardware shall be stainless steel.</p> <p>- Please define all hardware. It means that bolts and nuts, washer?</p>	<p>This interpretation is correct.</p>
128	10.21.12 N	<p>Cooling Fans</p> <p>The fan shall be individually one-plane rotationally balanced to a limit of 0.02-ounce inch.</p> <p>- In ISO 21940-11, Fan balance grade is shown at G6.3. May I apply a design that satisfies ISO 21940-11 standards?</p>	<p>ISO 21940-11 is acceptable, the specification will be modified to allow this.</p>
129	10.21.12 O	<p>Cooling Fans</p> <p>The motor and fan assembly shall not exceed a displacement perpendicular to the motor shaft of 0.003 inch when checked at the motor frame while operating at normal speed.</p> <p>- In ISO 21940-11, Fan balance grade is shown at G6.3. and For motor only, G2.5 May I apply a design that satisfies ISO 21940-11 standards?</p>	<p>ISO 21940-11 is acceptable, the specification will be modified to allow this.</p>
130	10.21.12 P	<p>Cooling Fans</p> <p>The motor-fan assembly shall be installed using elastomer mounts per Section 16, Materials and Workmanship, and shall not vibrate or cause objectionable noise when operating.</p> <p>- The motor fan has a structure in which it is fixed to the transformer tank in the form of a cooling system while combined with the cooler. In this case, the motor fan does not use separate elastomer mounts.</p>	<p>TS 10.21.12 #P will be modified as follows: "The motor-fan assembly shall be installed <del>using elastomer mounts per</del> <b>according with</b> Section 16, Materials and Workmanship, and shall not vibrate or cause objectionable noise when operating"</p>
131	10.21.13 B	<p>Electrical Connections</p> <p>All other cables shall use bolted connections.</p> <p>- For power cable, it will be use bolted connection. But connector type(Pfisterer) also can be used.</p>	<p>TS 10.21.13 #B will be modified as follows: "All other cables shall use bolted connections <b>unless otherwise approved</b> "".</p>
132	10.21.13 C	<p>Electrical Connections</p> <p>The ground and low voltage bushings shall be of ceramic material or approved equal.</p> <p>- It is necessary to verify whether "Ceramic" refers to porcelain. Since porcelain bushings can oil leak due to breakage caused by vibration and shock, recent railway vehicle transformers use composite bushings or Pfisterer's plug &amp; connector as low-voltage bushings. We propose a method for using these two types of bushings.</p>	<p>SEPTA considers this to be a design review approval topic.</p>
133	10.21.13 G	<p>Electrical Connections</p> <p>Cable or leads shall be run in a plastic covered metal tube of approved design. Nylon conduit may be proposed.</p> <p>- We propose PMA type corrugated tube. It is commonly used on main transformer and other equipment.</p>	<p>SEPTA considers this to be a design review approval topic.</p>
134	10.21.15 A	<p>Nameplate</p> <p>All transformer nameplates, warning signs, and identification tags shall be manufactured of stainless steel with all information and data visibly stamped and shall be mechanically fastened to the transformer at an easily accessible location. All text shall be clearly legible.</p> <p>- We propose that all transformer nameplate will be manufactured of stainless steel or aluminum with all information and data visibly stamped and will be mechanically fastened to the transformer at an easily accessible location. And warning signs, and identification tags will be manufactured of plastic or aluminum stickers. All text will be clearly legible.</p>	<p>Requirement remains unchanged at this time.</p>

135	10.21.16 B	<p>Protective Devices</p> <p>An interlock shall be provided to remove all transformer loading, except battery charging and layover heat, when cooling oil flow is not detected, or the heat exchanger fans are not operating when required to do so.</p> <p>- If the oil pump does not operate, all loads are cut off, and in the case of the cooling fan, all loads are cut off when the CB is tripped; however, if the cooling fan does not operate due to a cause other than the CB tripping, there is no separate interlock system. However, if the cooling fan does not operate, it directly affects the oil temperature of the main transformer, and an interlock system is implemented to limit the traction power or cut off the all load as the oil temperature of the main transformer rises excessively.</p>	<p>TS 10.21.16 #B, C, D will be consolidated as follows:</p> <p>Protection and fault annunciation shall be provided, including appropriate sensing devices and interlocking to reduce or remove transformer loading as dictated by the fault severity for:</p> <p>a. Loss or insufficient cooling oil flow.</p> <p>b. Oil pressure outside of acceptable range.</p> <p>c. Heat exchanger fans not operating.</p> <p>d. Cooling oil overheating.</p> <p>e. Excess gas generation from dielectric failure and similar causes.</p> <p>Transformer loading reduction in response to the fault conditions shall prioritize to the extent possible retention of battery charging and layover heat loads.</p> <p>TS 10.21.9.E will be deleted.</p>
136	10.21.16 D	<p>Protective Devices</p> <p>A Buchholz relay shall be provided to detect excess gas in the transformer oil cooling system and potential dielectric failure, and automatically shut down the propulsion system.</p> <p>- Buchholz relays are generally not applied to main transformers for railway vehicles. They were not applied to Septa IV and Septa V, nor are they applied to Septa VI.</p>	<p>TS 10.21.16 #B, C, D will be consolidated as follows:</p> <p>Protection and fault annunciation shall be provided, including appropriate sensing devices and interlocking to reduce or remove transformer loading as dictated by the fault severity for:</p> <p>a. Loss or insufficient cooling oil flow.</p> <p>b. Oil pressure outside of acceptable range.</p> <p>c. Heat exchanger fans not operating.</p> <p>d. Cooling oil overheating.</p> <p>e. Excess gas generation from dielectric failure and similar causes.</p> <p>Transformer loading reduction in response to the fault conditions shall prioritize to the extent possible retention of battery charging and layover heat loads.</p> <p>TS 10.21.9.E will be deleted.</p>
137	14.1.4. D	<p>14.1.4 Door Pockets</p> <p>Door pocket shall be provided with door guiding channels coordinated with the door system as specified in Section 6, Passenger Doors. Guiding channels shall not impede operation of the side doors at all car loading conditions and shall be subject to Approval.</p> <p>Question) The door leaves are supported by hangers at the top and threshold guide rails at the bottom. Please clarify if this chapter requires an additional guiding channel installed behind the door post interior panel</p>	<p>TS 14.14 #D will be deleted. TS 14.14 #A will be modified as follows:</p> <p>"Door pockets shall be constructed, from floor to ceiling, with sufficient strength and support to the main structure to bear passenger load under the most extreme conditions. The door pocket <b>and door leaf</b> shall not sag, drum, or vibrate. Door pocket material shall be Approved."</p>
138	14.6.1.C	<p>14.6 Interior Lockers and Access Panels</p> <p>All lockers determined by SEPTA Railroad Division requiring limited access shall be provided with key locks, special keys, or tamper resistant hardware as specified in Section 24, Cybersecurity.</p> <p>Question) Please provide clarification on the lock specifications and special key types. We also require confirmation regarding the number of keys supplied per type</p>	<p>The intent of this requirement is to have a provision for additional "keys" if required following Cybersecurity analysis. The exact lock specification, key type, and key quantity will be determined during design review, if applicable.</p>
139	Contract Documents and Specifications Exhibit - II Project Schedule	<p>The contract stipulates the following milestones: Milestone 11 (NTP + 88 months), 12 (NTP + 62 months), and 13 (NTP + 50 months). While we noted the requirement to establish a separate schedule for these three items, we would like to clarify whether the currently indicated timelines (in months from NTP) are no longer mandatory requirements.</p>	<p>The contractor may propose a delivery schedule for these items as part of their proposal. The schedule is subject to negotiation in the BAFO process.</p>

140	Section 2: IP 5.1 Price Proposal	We understand that Exhibit I is required for the Price Proposal, excluding Exhibit II and III. Please confirm whether our understanding is correct.	Exhibit II and III are also required.
141	15.4.22 B	The first production transformer shall be given both a heat run test to verify cooling system capability, and a cold start test to verify coolant pump capability with viscous coolant. a. The heat run test shall be conducted in a heat chamber held at a constant temperature of 140 degrees F during the test. (1) The transformer shall first be heat soaked for a period of 6 hours, and then energized at full rated power for a 2 hour period without showing evidence of any overheating or damage. - Generally, main transformer manufacturers do not have a heat chamber. And during the temperature rise test, the ambient temperature of the test room is between 50 degree F and the maximum ambient temperature specified in technical spec following the IEC 60310, 60076-2, IEEE C57.12.00 and C57.12.90. For required test conditions, <b>it can be provided as an simulation value.</b> b. The cold start test shall be conducted in a cold chamber held at a constant temperature of minus 7 degrees F during the test. (1) The transformer shall first be cold soaked for a period of 10 hours, and then energized with full auxiliary winter loads (full heating loads) for a 1 hour period. (2) The coolant pump shall start and operate normally without any damage, and the transformer shall operate without showing evidence of any overheating or damage. - Generally, main transformer manufacturers do not have a heat chamber. Even if the temperature drops to -26°C, the lowest temperature specified in the technical specifications, the viscosity of the oil (Silicone oil or synthetic Ester) increases, slowing down the oil flow, but no damage or overheating occurs to the main transformer or oil pump. The transformer manufacturers we do business with have a delivery record to areas with lower temperatures than this. We request exemption from this requirement.	The TS Section will be modified to reflect IEC 16310 testing and allow for alternative means to ascertain cold temperature performance of the cooling system.
142	15.9.10 A	2. Motor balance for all electric motors shall be dynamically tested in accordance with NEMA MG 1, Section 12.6, Mechanical Vibration. - Main Transformer fan motor balance will be tested in accordance with ISO 21940-11.	Main transformer fan motor rotors test should follow ISO 21940-11 standard. Whole motor should respect NEMA MG1, 12.6 recommendations.
143	16.24.12 A	1. b. b. Motors shall have permanently-lubricated insulated bearings. The selection of the bearing and the bearing's lubricant shall provide minimum of 14 years of continuous service before scheduled replacement. => Bearing replacement interval is every 8 years for blow motor & pump motor.	Agreed, the specification will be modified accordingly.
144	15.9.20 A	All tests shall be performed in accordance with ANSI Specifications numbers C57.12.00 and C57.12.90. Each transformer shall be given the standard Railroad tests. Testing in accordance with IEC 60310 may also be proposed, however test procedures and test levels shall be modified in accordance with values and details specified below and in Section 2, Design and Performance Criteria, and Section 10, Propulsion and High Voltage System. => Globally, transformers for railway vehicles comply with the IEC 60310 standard, and the ANSI C57.12.00 standard is for oil-filled distribution transformers or power transformers. Therefore, only parts of the ANSI C57.12.00 standard can be satisfied. And The test frequency is conducted at 50Hz or 60Hz instead of 25Hz (induced withstand voltage is conducted in accordance with standards), and for parts requiring conversion to 25Hz, the converted value is indicated.	The Specification will be updated to require IEC 60310 and requirements for ANSI C57.12.00 and C57.12.90 will be removed.
145	12.1.A.12	Please clarify if the Silverliner VI car is required to tow SEPTA's legacy fleet or not.	Yes, refer to TS 2.1.12 for specific requirements.
146	12.8.1.A.3	Is it allowed to indicate the system states and faults at driver's console, instead of the LED in the control logic cabinets? The morden brake control unit is an integrated brake control solution and provides all local brake control and WSP functions by means of a single product which integrates all pneumatic and electronic components, and has no LEDs	This request is acceptable. The Technical Specification will be revised accordingly.

147	12.9.4.A	<p>The current specification requires a Solid-State Pressure Switch. We would like to propose a change to a Mechanical Pressure Switch for the following reasons:</p> <ul style="list-style-type: none"> <li>• Proven Reliability: Mechanical pressure switches are time-tested, industry-standard components that have been proven in various demanding industrial applications.</li> <li>• Simplified Operation: Unlike solid-state alternatives, mechanical switches do not require a constant power supply to operate the sensing element, reducing electrical complexity and potential points of failure.</li> <li>• Field Serviceability:: Due to their widespread use, they are easily sourced and maintained by field technicians worldwide, ensuring better long-term support.</li> <li>• Cost-Effectiveness: Potential cost reduction in both procurement and maintenance.</li> </ul>	An alternative mechanical pressure switch can be proposed for Approval with sufficient justification during design review. The Technical Specification will be revised to allow for an Approved alternative.
148	12.9.4.A.1	Typical tolerance is $\pm 5$ psi. So, we would like to request a revision of the allowable set point drift tolerance from 1 psi to $\pm 5$ psi.	This requirement will not be changed.
149	12.14.3.A & 12.14.5.E	It is proposed that the Staubli RBE type on the brake control unit, and standard Salem type test fittings for other places. Please clarify it is acceptable.	Staubli RBE type test fittings must be provided at all locations.
150	12.17.B	The conductor valves located in the passenger area of each car vents the pilot port of the emergency brake application valve resulting in an emergency brake application, while the conductor valve located in the cab area of each car vents directly the Brake Pipe at high flow rate resulting in an emergency brake application. Due to these reason, the conductor valves in cab area are different with one in passenger area. Please clarify it is acceptable.	This request is rejected.
151	12.20.1.A	It is proposed that WSP operates on a per axle basis. Please clarify it is acceptable.	Accepted, the specification will be amended to allow this.
152	12.20.4.E	The modern brake control unit is an integrated brake control solution and provides all local brake control and WSP functions by means of a single product which integrates all pneumatic and electronic components. And, the cards (boards) are allocated inside the brake control unit which is the LRU. So, single cards (boards) cannot be exchanged. Please clarify it is acceptable.	TS 12.20.4 #E will be amended as follows: "All wheel slide electronic control cards <b>LLRUs</b> shall be interchangeable between cars without user adjustment."
153	13.2.A.3.d	What is the "utilizing an internal configurable model of SEPTA's system"? Please share the detail information.	This is typically a database of locations of stations and their related distances. When operating on dead reckoning, the vehicle can use the last known good position and calculate it's present location to determine station announcements, etc.
154	13.3.A.2	Can I configure it with a ready-made Bluetooth Beacon with a replaceable battery? Industrial Bluetooth Beacons are available as ready-made products, and most of these have built-in batteries and emit signals for 1-2 years. Besides location information, what other information do you want to provide to passengers using Bluetooth Beacons on trains?	The specific function of Auracast is to transmit BT LE Audio to BT receivers without pairing. The Technical Specification will be revised to require a wired connection to the LVPS or to utilize PoE that does not require periodic maintenance. It should be noted that the Technical Specification will be updated to remove the induction loop and require the Auracast only.
155	13.3.A.7	More detail information is required. Which equipment will be used secure APIs and which detail function are working with display screen?	This requirement is two fold - First, SEPTA desires the ability to make adjustments to passenger announcements via the TWC from their OCC. This would apply to route changes/notices, delays, service changes, etc. Second, the APIs that handle these adjustments must be secure; it should not be assumed that the TWC is 100% trusted, so authorization credentials and limited access controls should be implemented.

156	13.7.1.A.4	Please provide information on what interface between SEPTA's operations center and the vehicles should be used and what specific commands should be controlled	SEPTA OCC expects to be able to make audio announcements from OCC, or trigger all other announcements from OCC. For example, the OCC should be able to trigger a service disruption announcement, using the PIS API.
157	13.18.A.3.h & 4.d	It is very difficult requirement without detail application. Please define the detail requirement.	TS 13.18.A.3.h and 4.d will be removed.
158	24.3.4.1 a & b	While it appears vulnerable to vandalism, the specific standard for breaking strength are not clearly defined. There are no established vulnerability assessment criteria for eavesdropping	Noted. Proposer should consider the impacts of these actions practically, as a risk assessment: What is the risk/result of these activities? What is the result of vandalism on the equipment? (Consider graffiti, and impact resistances to provide hardening against damage). For eavesdropping, consider avenues a bad actor may use and if those avenues have been disabled. For example, Eavesdropping through an open/unused port, should not be possible, as all unused ports should be disabled logically.
159	11.4.1.E	<p>Requesting a waiver to allow the truck bolster exceeding the clearance outline shown in SEPTA Technical Specification Appendix 1 (referencing Amtrak drawing D05-1355) similar to SilverLiner IV and V configurations. The proposed truck bolster exceeds the clearance outline at the outer corner of the bolster anchor bracket. (See images below).</p> <p>The proposed bolster has been in operation with SEPTA in the SilverLiner V cars since 2010. Additionally, bolsters used in SilverLiner IV cars are of a similar overall size and bolster anchor bracket geometry and should have this same clearance exceedance at the bolster anchor connection.</p> 	<p>The requested waiver would be acceptable provided the proposal includes the following:</p> <ol style="list-style-type: none"> <li>1) Provide a dimensioned drawing of the truck shown on the Amtrak static clearance diagram (drawing D 05-1355, Rev E, sheet 1);</li> <li>2) Provide a dimensioned drawing of the truck shown on the Amtrak dynamic clearance diagram (drawing D 05-1355, Rev E, sheet 2), with the truck bolster moved down and laterally per the worst conditions of: suspension travel, wheel wear, and rail wear. The movement values/directions should be identified and explained.</li> <li>3) The above should include dimensions of the truck and the clearance diagrams.</li> <li>4) Demonstrate that the truck will remain fully inside the dynamic clearance envelope.</li> <li>5) Include details on past experience with the proposed truck bolster.</li> </ol>
160	15.6.4.1, A	We can test propulsion systems in units of 1 bogie or 1 M-car. Is it acceptable?	TS 15.6.4.1 #A will be amended as follows: "Test the propulsion subsystem in a propulsion lab with a brake rack using a complete <del>married pair</del> <del>pair</del> <del>car</del> 's worth of traction equipment, defined as the exact quantity of propulsion inverters and traction motors required for a complete <del>married pair</del> <del>pair</del> <del>car</del> plus all controls necessary to interface with the brake rack.
161	15.6.4.1, B	Auxiliary power units can be combined, but the corresponding load or subordinate devices cannot be combined. Is it acceptable?	Sufficient simulation of the auxiliary power loads using inductances and/or resistor power banks to demonstrate correct interactions between propulsion and auxiliary converters should be included. Actual auxiliary loads may also be provided if practical.

162	15.6.4.2, A. 3	The laboratory can only be equipped with the propulsion system, and it is not possible to install the wiring and positions as they are in the car configuration. Is it acceptable?	Duplication of propulsion equipment geometrical relations and wiring routes shall be maintained to the extent necessary to permit proper operation of air cooling and execution of Inductive Emissions measurements for undercar traction equipment items.
163	15.6.4.2, A. 4	The laboratory can conduct tests under normal outdoor temperature conditions. Is it acceptable?	This is acceptable. TS 15.6.4.2 #A4 will be removed.
164	15.6.4.2, A. 8. a	When tested under 0%-line receptivity conditions, there is no actual friction braking force, so there is a difference from the actual deceleration. In other words, there are differences in operating time and other factors compared to 100%-line receptivity conditions. Is it acceptable?	Energy consumed for motoring and energy returned to the line during braking should be accounted for separately during duty cycle tests. The case presented in the question does not appear relevant.
165	15.8.8.2, A. 3.	The speed sensor will be installed in the traction motor to measure speed. There is no need to install a separate independent sensor. Is it acceptable?	Rejected. The speed sensor installed to meet the requirements in TS 15.8.8.2 # A.3 shall be a high accuracy independent sensor. This sensor may be GPS-based, or other alternatives such as an optical head may be proposed, to account for spin/slide instances
166	15.8.8.9 B	The primary current will be measured only on the train side, as the Contractor has limited access to the substation. Please confirm if this is acceptable	TS 15.8.8.9 #B will be reworded as follows: "Instrument the married pairs <del>and the substation in the area</del> to measure vehicle main transformer primary currents under all yard operating scenarios
167	12.1.A.20 25.7.4.1.A.3	Section 12.1.A.20 states that Friction brake system components shall be serialized as required by Section 25, Program Management and Commissioning, while Section 25.7.4.1.A.3 requires that Serial numbers are required for Brake calipers, Brake actuators, Brake Control units and Air compressors. It is our understanding that the friction brake system components only specified in Section 25.7.4.1.A.3 should be serialized. So small components of the friction brake system such as cutout cocks and test fittings are not serialized. Please clarify our understanding is correct.	Understanding is correct - TS 25.7.4.1, A.3 notes the assemblies that require serialization. Small components of the friction brake system such as cutout cocks and test fittings do not need to be serialized. Other components/assemblies not mentioned in TS 25.7.4.1, A.3 may be serialized based on the brake manufacturer's internal standard procedures.
168	15.7.5	Car Climate Room Design Parameter Verification Tests  Question) [A prospective test facility provider] operates an environmental chamber test facility capable of evaluating the heating and cooling performance of rail vehicles. The institute conducts environmental testing for overseas projects, including electric multiple units (EMUs) for U.S. agencies [deleted]. We also intend to perform the environmental testing for this tendered project.  We would like to request your confirmation regarding the acceptance of the following conditions for [A prospective test facility provider] to conduct the environmental testing.  1) The test will be conducted on a single car unit, not a married-pair configuration 2) Solar load is simulated by activating a separate heater inside the vehicle. 3) The wind tunnel is implemented by installing a separate fan	1. Yes this is acceptable provided the test utilizes the "worst case" car if applicable. The specification will be modified accordingly. 2. Solar load simulation is acceptable see TS 15.7.4.3 #A3a. 3. This is acceptable see TS 15.7.4.3 #A2