

**Item B**

Statewide Contract for the purchase of  
Proterra transit buses  
Supplement 5 dated 09-26-2022



Department of General Services  
Procurement Division  
707 Third Street, 2<sup>nd</sup> Floor  
West Sacramento, CA 95605-2811

State of California  
**STATEWIDE CONTRACT**  
**USER INSTRUCTIONS**  
**NON-MANDATORY**

***\*Supplement 5\****

***\*(Incorporates Supplements 1 – 5)\****

ISSUE AND EFFECTIVE DATE: ***\*9/26/2022\****

CONTRACT NUMBER: 1-19-23-17C

DESCRIPTION: Zero-Emission Transit Buses

CONTRACTOR: Proterra Operating Company, Inc.

CONTRACT TERM: 12/16/2019 through 12/15/2023

STATE CONTRACT ADMINISTRATOR: Erica Seghesio-Groves  
(279) 946-8022

[Erica.SeghesioGroves@dgs.ca.gov](mailto:Erica.SeghesioGroves@dgs.ca.gov)

The contract user instructions, products, and pricing are included herein. All purchase documents issued under this contract incorporate the contract terms and applicable California General Provisions:

[Non-IT General Provisions, rev 06/08/2010](#)

(<http://www.documents.dgs.ca.gov/dgs/fmc/gsp/dgspd/401.pdf>)

Cal eProcure link: [www.caleprocure.ca.gov](http://www.caleprocure.ca.gov)

**ORDER PLACEMENT INFORMATION**

<b>Mailing Address:</b> Proterra Operating Company, Inc. 1815 Rollins Road Burlingame, CA 94010	<b>Email:</b> <a href="mailto:cpayne@proterra.com">cpayne@proterra.com</a>	<b>Contact Information:</b> Chris Payne Phone: (478) 361-8870
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All changes to most recent Supplement are in ***bold red italic***. Additions are enclosed in asterisks; deletions are enclosed in brackets.

SUMMARY OF CHANGES

Supplement Number	Description/Articles	Supplement Date
<b><i>*5*</i></b>	<p><b><i>*Subject contract for Zero-Emission Transit Buses is hereby modified to reflect the following changes:</i></b></p> <ul style="list-style-type: none"> <li>➤ <b><i>Attachment A, Contract Pricing. Price increase on all Zero-Emission Transit Bus Groups.</i></b></li> <li>➤ <b><i>Attachment G, Federal Clauses and Certifications, updated.*</i></b></li> </ul>	<b><i>*9/26/2022*</i></b>
4	<p>Subject contract for Zero-Emission Transit Buses is hereby modified to reflect the following changes:</p> <ul style="list-style-type: none"> <li>➤ Contractor Name Change from Proterra to Proterra Operating Company, Inc.</li> <li>➤ Contract has been extended from 12/15/2022 to 12/15/2023.</li> <li>➤ Attachment A, Contract Pricing. Price increase on all Zero-Emission Transit Bus Groups.</li> <li>➤ Attachment C, Base Bus Configurations, base bus changed from ZX5 (225 kWh battery pack) to the ZX5+ (450 kWh battery pack).</li> <li>➤ Attachment D, Technical Questionnaire, updated base bus battery packs and change made to Energy Storage System Thermal Management/HVAC.</li> </ul> <p>Attachment G, Federal Certification Forms, updated.</p>	7/08/2022
3	<p>Subject contract for Zero-Emission Transit Buses is hereby modified to reflect the following changes:</p> <p>Article 26, Contract Administration – update to State Contract Administrator’s contact information.</p>	11/09/2021

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2	<p>Subject contract for Zero-Emission Transit Buses is hereby modified to reflect the following changes:</p> <ul style="list-style-type: none"> <li>➤ Updated information on the following attachments due to new technology: <ul style="list-style-type: none"> <li>• Attachment A, Contract Pricing</li> <li>• Attachment C, Base Bus Configuration</li> <li>• Attachment D, Technical Questionnaire</li> <li>• Attachment E1, Summary of Standard Warranties</li> </ul> </li> </ul>	6/23/2021
1	<p>Subject contract for Zero-Emission Transit Buses is hereby modified to reflect the following changes:</p> <ul style="list-style-type: none"> <li>➤ Contract has been extended from 12/15/2021 to 12/15/2022.</li> <li>➤ Updated contact information in the following sections: <ul style="list-style-type: none"> <li>• Cover Page, Order Placement</li> <li>• Article 11, Customer Service</li> <li>• Article 17, Ordering Procedure</li> <li>• Article 26, Contract Administration</li> <li>• Article 32, Warranty</li> </ul> </li> </ul>	5/20/2021
N/A	Original Contract Posted	12/16/2019

**All other terms and conditions remain the same.**

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## 1. SCOPE

The State's contract with Proterra Operating Company, Inc. (Contractor) provides Zero-Emission Transit Buses at contracted pricing to Ordering Agencies in accordance with the requirements of Contract #1-19-23-17C. The Contractor shall supply the entire portfolio of products as identified in the contract and will be the primary point of contact for customer service, data collection, reporting, and distribution of Zero-Emission Transit Buses.

This Statewide contract is a State Cooperative Purchasing Contract (SCPC) under Section 3019 of the FAST Act and is compliant with Federal Transit Administration (FTA) Guidelines. The State of California has contracted with Proterra Operating Company, Inc. to provide Zero-Emission Transit Buses, Options, Spare Parts, and Support to multiple participants, including transit organizations from other states. The contract incorporates FTA required clauses and certifications. Any out of state agency is free to use the SCPC throughout the life of the contract.

Incentive discount programs such as CALSTART HVIP are not factored in to Attachment A, Contract Pricing. These incentive programs, if any, will apply at the time a purchase order is placed with Proterra Operating Company, Inc.

The contract term is for two (2) years with an option to extend the contract for three (3) additional one (1) year periods or portion thereof at the unilateral discretion of the State.

## 2. CONTRACT USAGE/RULES

- The use of this contract is non-mandatory for Ordering Agencies.
- Ordering Agencies are defined as "State of California departments (State), any city, county, city and county, district or other local governmental body or corporation empowered to expend public funds for the acquisition of goods, information technology, or services", reference Public Contract Code (PCC), section 10298 (a) (b), and similar United States agencies outside of California, reference section 3019 of the FAST Act.
- Ordering Agencies must adhere to all applicable State laws, regulations, policies, best practices, and purchasing authority requirements, e.g. California Codes, Code of Regulations, State Administrative Manual, Management Memos, State Contracting Manual Volume 2, FTA requirements, applicable statutes, rules, regulations and orders of the United States and the jurisdiction of the Ordering Agency.
- Prior to placing orders against this contract, Ordering Agencies are responsible for verifying they comply with FTA requirements.



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- Prior to placing orders against this contract, State departments must have been granted non-IT purchasing authority by the Department of General Services (DGS), Procurement Division (DGS-PD) for the use of this statewide contract. The department's current purchasing authority number must be entered in the appropriate location on each purchase document. Departments that have not been granted purchasing authority by DGS-PD for the use of the State's statewide contracts may contact DGS-PD's Purchasing Authority Management Section by e-mail at [pams@dgs.ca.gov](mailto:pams@dgs.ca.gov).
- State departments must have a DGS agency billing code prior to placing orders against this contract. Ordering departments may contact their Purchasing Authority contact or their department's fiscal office to obtain this information.

### **3. DGS ADMINISTRATIVE FEES**

#### **A. Non-State Ordering Agency**

For all Non-State Ordering Agency transactions issued against the contract, the Contractor is required to remit to DGS-PD an Incentive Fee of an amount equal to 1 percent of the total purchase order amount excluding taxes and freight. This Incentive Fee shall not be included in the agency's purchase price, nor invoiced or charged to the Non-State Ordering Agency. All prices quoted to Non-State Ordering Agency customers shall reflect State contract pricing, including any and all applicable discounts, and shall include no other add-on fees.

#### **B. California State Ordering Agency**

The DGS will bill each State Ordering Agency an administrative fee for use of this statewide contract. The administrative fee should NOT be included in the order total, nor remitted before an invoice is received from DGS.

Current fees are available online in the [Price Book & Directory of Services](https://www.dgs.ca.gov/OFS/Price-Book) (<https://www.dgs.ca.gov/OFS/Price-Book>) (go to Price Book Download and click on Purchasing under Procurement Division).

### **4. SB/DVBE OFF-RAMP PROVISION**

There is no SB/DVBE off ramp associated with this contract.

### **5. EXEMPT PURCHASES**

There are no exempt purchases associated with this contract.

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**6. PROBLEM RESOLUTION/SUPPLIER PERFORMANCE**

Ordering Agencies and/or Contractor shall inform the DGS State Contract Administrator (DGS CA) of any technical or contractual difficulties encountered during contract performance in a timely manner. This includes and is not limited to informal disputes, supplier performance, outstanding deliveries, etc. The Ordering Agency should include all relevant information and/or documentation (e.g., purchase documents).

**7. CONTRACT ITEMS**

Contract items include all items listed in Attachment A, Contract Pricing:

- Base Bus per Attachment C, Base Bus Configuration
- Battery upgrades
- Extended warranties
- Options, including all items in the Contractor's catalog
- Spare Parts
- Support, including:
  - Operator and Technician Training
  - Manuals

Contract also includes a battery leasing option. Ordering Agency must contact the Contractor for more details.

**8. FEDERAL TRANSIT ADMINISTRATION (FTA) CLAUSES AND CERTIFICATIONS**

The Contractor's completed FTA clauses and certifications are included as Attachment G.

**9. INSURANCE REQUIREMENTS**

The Contractor must maintain in force (as required by State law) a valid Worker's Compensation Insurance Policy for all employees engaged in the performance of the contract and agree to furnish the satisfactory evidence if an Ordering Agency may request.

**10. SPECIFICATIONS**

All products listed on Attachment A, Contract Pricing, conform to Attachment B, Technical Specification and Attachment D, Technical Questionnaire.

**11. CUSTOMER SERVICE**

The Contractor will have a customer service unit that is dedicated to this contract. The customer service unit provides office and personnel resources for responding to inquiries, including telephone and email coverage weekdays during the hours of 8:00 a.m. – 5:00 p.m. PT.



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The customer service unit shall be staffed with individuals that:

- Are trained in the requirements of this contract;
- Have the authority to take administrative action to correct problems that may occur; and
- Are designated for training and general customer service follow-up.

Contact	Phone	Email
Chris Payne	(478) 361-8870	<a href="mailto:cpayne@proterra.com">cpayne@proterra.com</a>

## 12. PRE-ORDER CONFIGURATION

The Contractor shall offer a pre-order configuration in accordance with Attachment H, New Bus Manufacturing Inspection Guidelines.

## 13. PRE-ORDER QUOTE REQUEST

The Contractor shall provide an offer to Ordering Agencies in MS Excel spreadsheet format that contains the following information or as specified by the Ordering Agency:

- Contractor letterhead
- Offer/Quote "prepared by" name and contact information
- Offer/Quote number
- Date of Offer/Quote
- Ordering Agency name
- Ordering Agency contact person
- Contract number
- Contract Line Item Number
- Quantity
- Description of Item
- Manufacturer's Part Number/SKU
- MSRP/Index Price
- Contract Discount, if any
- Contract Unit Price
- Extended Price (Quantity x Contract Price)
- Subtotals of taxable and non-taxable items
- Rate and calculated tax
- Applicable fees
- Grand Total

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**14. PRODUCT SUBSTITUTIONS/DISCONTINUED VEHICLE REMEDY/NEW TECHNOLOGY PROVISION**

Vehicles meeting or exceeding the category requirements shall be available throughout the duration of the contract term. The contract provides for technology refresh as models are discontinued or cease production and must be approved by the DGS CA. These changes will be made in the form of a contract supplement, and will not be effective until the supplement's release.

The Contractor shall not substitute products or configurations or modify catalog information without written approval from the DGS CA.

If no substitute product is available that meets or exceeds the specifications due to fundamental technology or market change, the State may alter the configuration to meet the updated marketplace standards. Obsolescence of a configuration may be determined at the discretion of the State.

Upon receipt of order acknowledgment identifying discontinued items, the Ordering Agencies shall have the following options:

- Amend purchase document to reflect DGS CA approved substitute item
- Cancel the item from the order

Under no circumstance is the Contractor permitted to make substitutions with non-contract items or unauthorized products without approval from the DGS CA.

The State reserves the right to add new devices or accessories to this contract that may evolve or become available through new technology. Such additions must be for the same general purpose as equipment awarded and fall within the original scope. Such equipment shall only be added if it is presented as a replacement as approved by the DGS CA.

**15. PURCHASE EXECUTION**

A. State Ordering Agency

1) Std. 65 Purchase Documents

State Ordering Agencies not transacting in FISCAL must use the Purchasing Authority Purchase Order (Std. 65) for purchase execution. An electronic version of the Std. 65 is available at the [Office of State Publishing web site](https://www.dgsapps.dgs.ca.gov/osp/StatewideFormsWeb/Forms.aspx) (<https://www.dgsapps.dgs.ca.gov/osp/StatewideFormsWeb/Forms.aspx>) (select STD Forms).

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All Purchasing Authority Purchase Orders (Std. 65) must contain the following:

- Agency Order Number (Purchase Order Number)
- Ordering Agency Name
- Agency Billing Code
- Purchasing Authority Number
- Leveraged Procurement Number (Contract Number)
- Supplier Information (Contact Name, Address, Phone Number, Fax Number, E-mail)
- Line Item number
- Quantity
- Unit of Measure
- Commodity Code Number
- Product Description
- Unit Price
- Extension Price

2) FI\$CAL Purchase Documents

State departments transacting in FI\$CAL will follow the FI\$CAL procurement and contracting procedures.

3) Blanket Orders

The use of blanket orders against this statewide contract is not allowed.

B. Non-State Ordering Agencies

Non-State Ordering Agencies may use their own purchase document for purchase execution. The purchase documents must include the same data elements as listed above (Exception: Purchasing Authority Number and Billing Code which are used by State departments only).

**16. MINIMUM ORDER**

There is no minimum order for this contract.

**17. ORDERING PROCEDURE**

Ordering Agencies are to submit appropriate purchase documents directly to the Contractor via one of the following ordering methods:

- U.S. Mail
- Email



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The Contractor's Order Placement Information is as follows:

ORDER PLACEMENT INFORMATION		
<b>Mailing Address:</b> Proterra Operating Company, Inc. 1815 Rollins Road Burlingame, CA 94010	<b>Email:</b> <a href="mailto:cpayne@proterra.com">cpayne@proterra.com</a>	<b>Contact Information:</b> Chris Payne Phone: (478) 361-8870

When using any of the ordering methods specified above, all State Ordering Agencies must conform to proper State procurement procedures regardless of funding. If a Non-State Ordering Agency is a recipient of Federal funding, it is their responsibility to ensure compliance with FTA requirements in addition to the procurement procedures of their jurisdiction.

## 18. ORDER ACCEPTANCE

The Contractor may accept orders from any Ordering Agency.

## 19. ORDER RECEIPT CONFIRMATION

The Contractor will provide Ordering Agencies with an email or facsimile order receipt confirmation within forty-eight (48) hours of receipt of purchase document. The Order Receipt Confirmation shall include the following information:

- Contractor's Order Number
- Ordering Agency Name
- Agency order number (Purchase Order Number)
- Description of Goods
- Total Cost
- Anticipated Delivery date
- Date order is placed with manufacturer
- Delayed Production Notification (if applicable)
- Discontinued Bus Notification (if applicable)

## 20. OUT OF STOCK REMEDY

Upon receipt of an order acknowledgment identifying out of stock Spare Part items, the Ordering Agencies should have the following options:

- Request back order
- Cancel the item from the order with no penalty

Contractor should provide notification to the Ordering Agencies regarding out-of-stock items which have been back ordered.

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Under no circumstance is the Contractor permitted to make substitutions with non-contract items or unauthorized products without DGS CA approval.

## **21. DELIVERY SCHEDULES**

Delivery for orders placed against this contract shall be in accordance with the following:

### **A. Locations**

Deliveries are to be made to the location specified on the individual order. The Contractor is requested to make deliveries to Los Angeles County, Orange County, San Bernardino Metropolitan Area, and San Diego Metropolitan Area during off-peak hours. Off-peak hours are 10:00AM to 4:00PM PT.

### **B. Schedule**

Delivery of ordered product shall be completed in full within two (2) years after receipt of an order (ARO). Since receiving hours for each Ordering Agency will vary by facility, it will be the Contractor's responsibility to check with each facility for their specific delivery hours before delivery occurs. The Contractor must notify the Ordering Agency within twelve (12) hours of scheduled delivery time if delivery cannot be made within the time frame specified on the Order Receipt Confirmation.

## **22. PRE-DELIVERY CHECKLIST**

Prior to delivery, each vehicle shall be completely inspected, serviced, and detailed by the Contractor and/or the manufacturer's pre-delivery service center. A copy of the pre-delivery checklist shall be completed for each vehicle, signed by a representative of the organization performing the inspection/service and delivered with the vehicle.

## **23. DELIVERY DOCUMENTS**

The following documents shall be delivered to the Ordering Agency with the vehicle:

- Completed and signed pre-delivery service checklist, including the order number and Vehicle Identification Number (VIN)
- "Line Set Tickets" showing all options installed
- One (1) copy of the warranty, including applicable certificates, cards, etc.
- One (1) copy of the owner's manual (if applicable)

The following manuals shall be provided to the Ordering Agency, within thirty (30) days following the delivery of the first production vehicle.

- One (1) copy of the Maintenance Packages Manual
- One (1) copy of the Preventative Maintenance and Procedure Manual
- One (1) copy of the Parts Manual
- One (1) copy of the Operator's Manual



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**24. FREE ON BOARD (F.O.B.) DESTINATION**

All prices are F.O.B. destination; freight prepaid by the Contractor, to Sacramento County. The fees for deliveries outside of Sacramento County shall be negotiated between the Contractor and Ordering Agency. Responsibility and liability for loss or damage for all orders will remain with the Contractor until final inspection and acceptance, when all responsibility will pass to the Ordering Agency, except the responsibility for latent defects, fraud, and the warranty obligations.

**25. INSPECTION AND ACCEPTANCE**

Inspection and acceptance shall be in accordance with the General Provisions, paragraph 17 entitled Inspection, Acceptance and Rejection, Non-IT General Provisions, Rev. 06/08/2010, as well as Attachment H, New Bus Manufacturing Inspection Guidelines.

**26. CONTRACT ADMINISTRATION**

Both the State and the Contractor have assigned contract administrators as the single points of contact for problem resolution and related contract issues.

<b>Administrator Information</b>	<b>DGS-PD</b>	<b>Proterra</b>
<b>Contact Name:</b>	Erica Seghesio-Groves	Chris Payne
<b>Telephone:</b>	(279) 946-8022	(478) 361-8870
<b>Email:</b>	<a href="mailto:Erica.SeghesioGroves@dgs.ca.gov">Erica.SeghesioGroves@dgs.ca.gov</a>	<a href="mailto:cpayne@proterra.com">cpayne@proterra.com</a>
<b>Address:</b>	DGS/Procurement Division Attn: Erica Seghesio-Groves 707 Third Street, 2 <sup>nd</sup> Floor, MS 201 West Sacramento, CA 95605	Proterra Operating Company, Inc. Attn: Chris Payne 1815 Rollins Road Burlingame, CA 94010

**27. RETURN POLICY**

Contractor shall accept all Spare Parts for return within thirty (30) calendar days of delivery, and refund the customer the purchase price minus a 15 percent handling fee.

Spare Parts returned should be in the packaging as delivered and include all documentation. Lost or damaged packaging materials and/or documentation shall be supplied by the Contractor. The Contractor shall not charge for these materials in excess of the Contractor's cost. The Contractor shall provide the DGS CA and/or Ordering Agency a copy of the Contractor's material cost, if requested, within ten (10) days of request.

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All returns shall be picked up within seven (7) working days of notification. Notification is defined as notice in writing, by facsimile, or e-mail.

## **28. PRODUCT RECALL PROCEDURES**

The Contractor shall provide recall notification, regardless of level, in writing to the DGS CA and each applicable Ordering Agency through the most expedient method possible. The notices, at a minimum, shall include a complete product/component description and/or identification, contract number, delivery order number and disposition instructions. The Contractor shall pick up, test, destroy, or return recalled products/components to the manufacturer at no expense to the Ordering Agency. The Contractor shall issue replacement of product/component or credit for any product/component removed or recalled. Each Ordering Agency shall have the option of accepting either replacement product/component or credit in exchange for recalled/removed products.

## **29. INVOICING**

Invoices shall be submitted to the Ordering Agencies within seven (7) calendar days from date of delivery. Ordering Agencies may require separate invoicing, as specified by each Ordering Agency.

## **30. PAYMENT**

### **A. Terms**

Ordering Agencies may pay by check or electronic funds transfer. California State Ordering Agency Payments are to be made in accordance with paragraph 30 of the State's General Provisions.

### **B. State Financial Marketplace**

The State reserves the right to select the form of payment for all procurements, be it either an outright purchase with payment rendered directly by the State, or a financing/lease-purchase or operating lease via the State Financial Marketplace (GS \$Mart and/or Lease \$Mart). If payment is via the financial marketplace, the Contractor will invoice the State and the State will approve the invoice and the selected Lender/Lessor for all product listed on the State's procurement document will pay the Contractor on behalf of the State.



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**31. CALIFORNIA SELLER'S PERMIT**

The California seller permit number for the Contractor is listed below. Ordering Agencies can verify that permits are currently valid at the following website: [www.cdtfa.ca.gov](http://www.cdtfa.ca.gov). State departments must adhere to the file documentation identified in the State Contracting Manual Volume 2.

Contractor Name	Seller Permit #
Proterra Operating Company, Inc.	102865447

**32. WARRANTY**

A. Standard Warranty

The Contractor is providing warranties and warranty services set forth in Attachment E, Warranty Requirements. Refer to Attachment E1, Summary of Standard Warranties for warranties being provided by Proterra Operating Company, Inc.

B. Energy Storage Extended Warranty

An Energy Storage Extended Warranty is available for an Additional six (6) years/250k miles, in accordance with Attachment E, Warranty Requirements.

C. Equipment Replacement During Warranty

The Contractor shall provide equipment replacement services during warranty as set forth in Attachment E, Warranty Requirements.

D. Warranty Claims

If the Agency detects a defect within the defined warranty period, it shall within thirty (30) days provide a Notice of Defect to the Contractor's representative.

Contractor Point of Contact	Email	Telephone
Chris Payne	<a href="mailto:cpayne@proterra.com">cpayne@proterra.com</a>	(478) 361-8870



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**33. ATTACHMENTS**

Attachment A – Contract Pricing, ***\*Supplement 5\****  
Attachment B – Technical Specification  
Attachment C – Base Bus Configurations  
Attachment D – Technical Questionnaire  
Attachment E – Warranty Requirements  
Attachment E1 – Summary of Standard Warranties  
Attachment F – Training Requirements  
Attachment G – FTA Clauses and Certifications, ***\*Supplement 5\****  
Attachment H – New Bus Manufacturing-Inspection Guidelines

## **Attachment A1**

Proterra pricing proposal to  
Sonoma County Transit  
with Options



## BUS AND CHARGER OPTIONS CONFIGURATOR

<b>Customer</b>	Sonoma County Transit
<b>Number of buses</b>	10
<b>Procurement Method</b>	CA State Schedule
<b>Bus length / model</b>	40' ZX5
<b>Contract/P.O. #</b>	TBD
<b>Delivery Date</b>	TBD

DESCRIPTION	UNIT PRICE	# OF UNITS	TOTAL PRICE
<b>BUS &amp; CONFIGURABLE OPTIONS</b>			
Base bus - 40' Proterra ZX5 MAX (pricing includes 738kwh battery storage, and operating range in excess of 300 miles)	\$899,000	10	\$8,990,000
Configurables	\$127,824	10	\$1,278,239
<b>Sub-Total, Customer Configured Bus:</b>	<b>\$1,026,824</b>	<b>10</b>	<b>\$10,268,239</b>
Sales Tax @ 4.5625% (If Applicable) <i>Taxable Amount: \$1,014,988 (Excl. ADA-Related for CA only)</i>	\$46,309	10	\$463,088
Bus HVIP Voucher Discount (If Applicable)	(\$120,000)	10	(\$1,200,000)
Warranty	\$66,957	10	\$669,570
Freight (Estimated)	\$8,614	10	\$86,140
<b>Sub-Total, Bus with Config, Warranty, Tax &amp; Discount:</b>	<b>\$1,028,704</b>	<b>10</b>	<b>\$10,287,038</b>
<b>CHARGING SOLUTION</b>			
Quoted Charging Solution Package	\$0		\$0
<b>OTHER ITEMS (Requires separate PO from customer)</b>			
Training	\$0	1	\$0
Manuals	\$0	1	\$0
Tools	\$0	1	\$0
Parts and other service	\$0	1	\$0
Sales Tax @xx.xx% (If Applicable) <i>Taxable Amount: \$ xxxxx.xx (Materials Only)</i>	\$0		\$0
<b>Sub-Total, Other Items (Incl. Tax):</b>	<b>\$0</b>		<b>\$0</b>
<b>TOTAL:</b>			
			<b>\$10,287,038</b>

Price valid for 90 days or as specifically determined by purchase contract.

Approved by:



## Option Tracker - Bus Configuration

OPTION TRACKER				REV K01
Customer	Sonoma County Transit	Option Content Pricing (Per Bus):		\$327,824
Number of buses	10			
Bus Length / Model	40' ZX5			
Contract/P.O. #	TBD			
Tentative Delivery Date	TBD			
Proterra Tech Spec	Category	Customer Selection	Option	Price Impact
TS 9	Propulsion System (Electric) Energy Storage System	x	ZX5 Max - Six (6) HV Battery Packs, 675kWh - <b>Only Available on the 40' Bus</b>	\$200,000
TS 9	Electric Drivetrain	X	Standard - 240kW Drivetrain (Motor, Invertor, & 4-speed Transmission)	\$0
TS 9	Overhead Charging Interface	X	Standard - None	\$0
TS 9	Charge Ports	X	Standard - One (1) Standard J1772-CCS Charge Port: <b>Curbside Rear</b>	\$0
TS 5.10	Automatic Fire Detection / Suppression	X	Amerex V25 4 Nozzle Fire Suppression System (Electric Drive compartment & LV Battery compartment) <b>Note: Recommended when fuel-fired heater is selected</b>	\$4,741
TS 25	Towing	X	Standard - Capable of front tow, no rear tow	\$0
	Tow Connections	X	Standard - Air Fittings: Single Male Industrial fitting @ bumper and Rear SS access panel for tank fill Electrical Connection: SAEJ560 electrical tow connector on front bumper	\$0
TS 32.1	Wheels (22.5 x 9")	x	Polished Aluminum with Durabright and DuraFlange, ALCOA 896513DD	\$1,476
	Wheel & Tire Accessories	X	Standard - Torque Indicators, Green (Wheel Check WLCH-B)	\$0
		X	Standard - Brake Wear Indicator	\$0
		X	Hubodometer - Veeder-Root Mechanical	\$233
TS 32.2	Tires	X	Standard - Michelin X InCity Energy Z LR L- 315/80R22.5	\$0
TS 33	Steering Wheel	X	Standard - 2 Spoke (18")	\$0
TS 42	Circuit Protection	X	Standard - LV Circuits (<30A) housed in PDM protected by fuses	\$0
TS 46.3	Visors / Sun Shades	X	Front 30"/ Side 48" (Half solid/Half Mesh)	\$116
TS 46.4	Drivers Controls	X	Engineer to Order - Reference Template	Calculated
TS 46.6	Driver Foot Controls	X	Adjustable Pedals	\$1,539
TS 47	Driver's Amenities	X	Driver Coat Hanger	\$30
		X	Two (2) Driver Controlled Dash Fans	\$249
TS 49	Driver's Seat <b>Note: If these buses are subject to CMVSS, a 3-point seat belt is</b>	X	Engineer to Order - Proterra recommends including occupancy alarm with all special requests. - USSC 9110 ALX w/ 3-point shoulder belt with option to use lap belt only.	\$643
TS 49.8	Mirrors (Exterior)	X	Standard - SafeFleet Low Mount SS / High- Mount CS w/ Integrated LED Turn Signal Lamp, Auto Spring Detent - Tube Style Mount	\$0

Approved by:





## Option Tracker - Bus Configuration

OPTION TRACKER				REV K01
Customer: Sonoma County Transit		Option Content Pricing (Per Bus):		\$327,824
Number of buses: 10				
Bus Length / Model: 40' ZX5				
Contract/P.O. #: TBD				
Tentative Delivery Date: TBD				
Proterra Tech Spec	Category	Customer Selection	Option	Price Impact
TS 49.8.2	Mirrors (Interior)	X	Engineer to Order - 5 mirrors required as such: - 1 Rear view mirror (standard) - 2 mirrors at front entrance door, <b>one is for monitoring the bike rack</b> - 1 mirror above CS wheel-well to monitor the ADA area - 1 mirror at exit door stanchion (standard)	\$515
TS 52	Driver's Side Window	X	Base - Flush Mounted, Single Slider Opening, Rocker Latch Handle, 79% Green, 5mm Tempered Glass	\$0
TS 53.4	Passenger Windows	X	Add Transom Tip-in (specify locations on template)	Incl w/ Window Quote
		X	Engineer to order - Reference Template <b>Please Note:</b> Proterra does not stock non-standard windows for service replacement and factory lead times can be up to 12 weeks	\$10,531
TS 53.2	Emergency Exit (Egress) Configuration	X	<b>40' Bus Body Only</b> Engineer to Order - Reference Template	Incl w/ Window Quote
TS 54	HVAC	X	Standard - Valeo RevoE-Global All Electric HVAC, R407c Refrigerant, 30KW cooling, 30KW heating (heat pump) 20KW Heating (electric)	\$0
	Air Filtration	X	Standard - Valeo Paper Dust Filter, Merv 7	\$0
	Winter Weather Package	X	Standard - None	\$0
TS 62	Hatches	X	<b>40' Bus Only</b> Engineer to Order - 4-way Transpec remote controlled from driver's area	\$417
TS 66	Front License Plate Holder	X	Mounted on Front bumper, toward street side of bus	\$43
TS 69.2	Access Door Latch/Locks	X	Standard - Square Key for Exterior Access Panels: Includes all panels except the 3 upper access panels which house charging plugs and master disconnect switch. Locked access panels include fluid fill, both lower rear access panels, and the trunk.	\$0
TS 70.2	Bike Rack	X	Sportworks 3 position - DL3 Trilogy	\$2,576
TS 70.2	Bike Rack Material Finish	X	Mild Steel - (only for DL2 & DL3) Black Powdercoat	\$0
TS 70.2	Bike Rack Sensor	X	Bike Rack Deployment Sensor (Req'd in California)	\$15
TS 71.1	Appearance (Exterior Graphics)	X	Paint - Reference Template	\$22,660
TS 72	Decals, Numbering and Signaling	X	Proterra Decal Package Bilingual (English & Spanish)	\$0
TS 75.1	Operator's Barrier	X	Full Enclosure (Arow Global) - Extended Glass - Sliding Forward Glass - 180 Grit Polish Stainless Steel Support Stanchion Finish  Note: Enter any variants or alternate options as a special request below	\$5,377

Approved by:





## Option Tracker - Bus Configuration

OPTION TRACKER				REV K01
Customer	Sonoma County Transit	Option Content Pricing (Per Bus):		\$327,824
Number of buses	10			
Bus Length / Model	40' ZX5			
Contract/P.O. #	TBD			
Tentative Delivery Date	TBD			
Proterra Tech Spec	Category	Customer Selection	Option	Price Impact
TS 75.8	Floor Covering	X	Standard - Altro Meta 2.7mm Color = Midnight Grey (TFM27421)	\$0
TS 75.9	Interior Lighting	X	Standard - Overhead LED Interior Lighting - White	\$0
TS 76	Fare Collection	X	Proterra purchase and install fare box [GFI Fast Fare, keyed to SCT] - Please list any farebox accessories and provide photos in electronics template.	\$20,957
TS 78	Passenger Seating	40' Bus Body Only		
		X	USB Ports	inc. w/seats
		X	Engineer to Order - Reference Seating Template	\$29,245
TS 79	Passenger Assists (Stanchions)	X	Engineer to Order - Reference Passenger Assist Template - All stanchions need to be stainless steel finish	Calculated
TS 79.5	Overhead	X	Engineer to Order - Reference Passenger Assist Template - Stainless steel grab straps, 5 on SS & 5 on CS	\$21
TS 80	Passenger Doors	X	Ventura Electric, Rear Door is Inward Swinging	\$3,239
	Rear Door Operation	X	Passenger authorized rear door - Contactless "Wave to Open" REQUIRES VIP IR SENSORS	Incl w/VIP sensor
	Door Safety	X	Standard - Dual Redundant System (Sensitive Edge + Motor Feedback)	\$0
TS 80.1	Front Underbody Skid Plates	X	Add - Dual Attachment Stainless Steel Front Door Skid Plates	\$1,491
TS 81.1	Loading Systems for Low-Floor Bus	X	Lift U LU11 6:1	\$2,436
TS 81.5	Wheelchair Accommodations	X	Q-Pod [1 on SS, 1 on CS]	Incl. Seat Quote
TS 83	Destination Signs	X	Standard - Hanover, Amber Front - 160x17, Curb Side - 112x15, Rear - 48x15	\$0
		X	Engineer to Order - Rear Sign to be same as CS sign	Calculated
TS 84	Interior Document Holders and Advertising	X	Standard - 11" Advertisement Holders in overhead structure (Note: HVAC ducting option puts vents in this area)	\$0

Approved by:



## Option Tracker - Bus Configuration

OPTION TRACKER				REV K01
Customer	Sonoma County Transit		Option Content Pricing (Per Bus):	\$327,824
Number of buses	10			
Bus Length / Model	40' ZX5			
Contract/P.O. #	TBD			
Tentative Delivery Date	TBD			
Proterra Tech Spec	Category	Customer Selection	Option	Price Impact
TS 85	Passenger Stop Request / Exit Signal	X	Standard - Touch Tape, Single Switch on Stanchion Forward of Rear Door	\$0
	Stop Request Misc.	X	Standard - Push button switch Switch on Stanchion Forward of Rear Door	\$0
	ADA Stop Request Signal Type	X	Standard - Touch Pad on Seat	\$0
	Stop Requested-Next Stop Sign	X	Engineer to Order - 2 interior signs required - 1 LED at driver's front area to indicate Next Stop and Stop Requested - 1 sign at rear deck to indicate "Watch Your Step"	\$464
TS 86.1	Camera Surveillance System	X	Engineer to Order - Reference Surveillance Template	\$4,520
TS 86.2	Public Address System	X	Standard - With Footswitch Operated Mic	\$164
TS 86.3	Automatic Passenger Counter (APC)	X	Engineer to Order - Part of Cubic Nextbus	Calculated
TS 86.4	ITS	X	Engineer to Order - Reference Electronics Template - Price to include any vendor charges for testing/witnessing requirements - Cubic Nextbus - DCU, GPS tracker, APC & Next Stop Annunciation system with LED sign	\$12,443
TS 86.4.4	Emergency Alarm	X	Standard - Covert switch Triggers Destination Sign Emergency Message ONLY	\$0
TS 86.5	Voice/CB (2-way) Radio System	X	Engineer to Order - <b>UPDATE PN</b> radio with handset style microphone/speaker - Separate external speaker in the driver's work area to monitor radio when handset is not in use	\$1,198
TS 86.6	Interior Passenger Display Monitors	X	Standard - None	\$0
TS 87	Event Data Recorder	X	Standard - None	\$0
TS 88	Pedestrian Turn Warning System	X	ADA alarm will sound with the left or right turn signal, disable switch in the drivers area.	\$488

Approved by:

## **Attachment A2**

Contract pricing per California Procurement  
Department Agreement



**Group 2 - 40 Foot Standard Low Floor Battery Electric Bus**

**Contractor** Proterra Operating Company, Inc.  
**Manufacturer** Proterra Operating Company, Inc.  
**Model** 40' Proterra ZX5 MAX

<b>BASE BUS</b>		
<b>Contract Line Item # (CLIN)</b>	<b>Description</b>	<b>Contract Unit Price</b>
2.1	Proterra 40 Foot ZX5 MAX Standard Low Floor Battery Electric Bus, <b>738</b> kWh battery pack with an operating range in excess of <b>300</b> miles, meeting Attachment B, Technical Specification 2310-4399R2, dated 4/19/2019. Base warranty of 6yrs/250k miles on Energy Storage System (ESS).	<b>*\$899,000*</b>
2.2	Optional Extended Warranty: Complete Vehicle (ProDrive) Limited Warranty - 4 Year/250,000 Ext	<b>*\$66,957*</b>

<b>OPTIONS</b>		
<b>Contract Line Item # (CLIN)</b>	<b>Description</b>	<b>Contract Mark-Up %</b>
n/a	Options, (cost plus)	3%

<b>SPARE PARTS</b>		
<b>Contract Line Item # (CLIN)</b>	<b>Description</b>	<b>Contract Unit Price</b>
2.4	Set Wiper Motors	<b>*\$280.70*</b>
2.5	Windshields (Standard Transit), per side	<b>*\$914.94*</b>
2.6	Set of Lower Panels	<b>*\$1,526.85*</b>
2.7	Set of Front Doors	<b>*\$5,398.00*</b>
2.8	Set of Rear Doors	<b>*\$5,720.99*</b>
2.9	Door Motor	<b>*\$2,923.87*</b>
2.10	Rear Bumper	<b>*\$1,291.95*</b>
2.11	Front Bumper	<b>*\$1,409.40*</b>
2.12	Traction Motor	<b>*\$10,570.50*</b>
2.13	Traction Motor Controller	<b>*\$9,983.25*</b>
2.14	Disk Brake Pad Set for one wheel	<b>*\$1,174.50*</b>
2.15	Disk Brake Rotor	<b>*\$1,057.05*</b>

<b>SUPPORT</b>		
<b>Contract Line Item # (CLIN)</b>	<b>Description</b>	<b>Contract Unit Price</b>
2.16	Operator Training (per hour as indicated in Attachment F-Training Requirements, total 56 hours)	<b>*\$256.92*</b>
2.17	BEB Technician Training (per hour as indicated in Attachment F-Training Requirements, total 304 hours)	<b>*\$256.92*</b>
2.18	Maintenance Packages Manual (per manual)	<b>*\$352.34*</b>
2.19	Preventative Maintenance and Procedure Manual (per manual)	<b>*\$352.34*</b>
2.20	Parts Manual (per manual)	<b>*\$237.9*</b>
2.21	Operator's Manual (per manual)	<b>*\$117.45*</b>

\*Operating range approximated, and will vary with route conditions, weather, vehicle configuration and driver behavior.

## **Attachment B**

# Technical Specifications

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## **1.0 SCOPE**

### **1.1 GENERAL**

This specification establishes the requirements for Zero Emissions Buses (ZEB); both Battery Electric Buses (BEB) and Fuel Cell Electric Buses (FCEB) intended for use within the State of California.

The State of California Department of General Services (DGS) in collaboration with the transportation districts within the State, seek to establish agreement(s) for the purchase of the most modern heavy-duty transit buses available. Intent is to maximize passenger appeal in appearance, comfort, and safety, combined with excellence in reliability, operating characteristics, and economy of operation.

Heavy-duty buses shall be purchased with a basic configuration of 30 ft., 35 ft., 40 ft., 45 ft. and articulated 60 ft., low or high-floor, fuel cell, battery electric, extended-range, zero emission "advanced design". These buses shall be designed for general service in densely populated areas on urban arterial streets and shall be designed to operate in transit service for at least 40,000 miles per year for a minimum expected life of twelve (12) years or 500,000 miles, whichever comes first.

These buses are intended for a wide possible spectrum of passengers, including children, adults, the elderly and people with disabilities.

All vehicles offered by any prospective contractor shall meet the following applicable requirements or equivalent, but not limited to these listed:

- Americans with Disabilities Act (ADA)
- Altoona Testing Requirements
- American Society of Mechanical Engineers (ASME)
- American Society for Testing and Materials (ASTM)
- Code of Federal Regulations (CFR)
- California Vehicle Codes (CVC)
- Department of Transportation (DoT)
- Environmental Protection Agency (EPA) - Federal Emission Certification for Heavy-Heavy Duty Vehicles
- Federal Motor Carrier Safety Administration (FMCSA)
- Federal Motor Carrier Safety Standards (FMCSS)
- Federal Motor Vehicle Safety Standards (FMVSS)
- Federal Transportation Agency (FTA) - Buy America guidelines
- NFPA 52 - CNG/LNG Fuel Systems (Standard for California due to CVC requirements)
- Society of Automotive Engineers (SAE)

### **1.2 OPERATING ENVIRONMENT**

The bus shall achieve normal operation in ambient temperature ranges of 10 °F to 115 °F, at relative humidity between 5 percent and 100 percent. Degradation of performance due to atmospheric conditions shall be minimized at temperatures below 10 °F, above 115 °F. Speed, gradability and acceleration performance requirements shall be met at, or corrected to, per Section 2.2 of this document.

### **1.3 MATERIALS**

Materials used in the construction of the passenger compartment of the bus shall be in accordance with the Recommended Fire Safety Practices defined in FMVSS 302.



## **1.4 RESPECT FOR THE ENVIRONMENT**

In the design and manufacture of the bus, the contractor shall make every effort to reduce the amount of potentially hazardous waste. In accordance with Section 6002 of the Resource Conservation and Recovery Act, the contractor shall use, whenever possible and allowed by the specifications, recycled materials in the manufacture of the bus.

## **1.5 SERVICE LIFE**

The minimum useful design life of the bus in transit service shall be at least twelve (12) years or 500,000 miles. It shall be capable of operating at least 40,000 miles per year, including the 12th year.

## **2.0 SPECIFICATIONS, STANDARDS AND CODES**

### **2.1 GENERAL**

These specifications are not intended to dictate any specific design, but rather are intended to indicate the base type of bus and equipment desired by the State and minimum requirements of bus performance, which must be achieved. These specifications define requirements for a base heavy-duty zero-emissions fuel cell and battery-electric transit bus to be used for both suburban express service and general service on urban arterial streets. Specific bus options not included in the specification and base bus shall be configured directly with the bus manufacturer and/or dealer.

### **2.2 ALTOONA TESTING**

The buses shall be Altoona tested and meet any other bus testing requirements. Prior to acceptance of first bus, the vehicle must have completed any FTA required Altoona testing. Any items that require repeated repairs or replacement must undergo the corrective action with supporting test and analysis.

### **2.3 VEHICLE CODES**

The contractor shall comply with all applicable federal, state and local regulations. These shall include but not be limited to ADA, as well as state and local accessibility, safety and security requirements. Buses shall meet all applicable FMCSS and CVC regulations and shall accommodate all applicable FMCSS regulations in effect at the location of the transit agency and the date of manufacture. The mounting of hardware shall not be used to provide the sole source ground, and all hardware shall be isolated from potential Electromagnetic Interference/Radio-Frequency Interference (EMI/RFI), as referenced in SAE J1113. The electrical system and its electronic components shall be capable of operating in the area of the vehicle in which they will be installed, as recommended in SAE J1455. Electrical/electronic hardware and its mounting shall comply with the shock and vibration requirements of SAE J1455.

Electrical and electronic equipment shall not be located in an environment that will reduce the performance or shorten the life of the component or electrical system when operating within the design operating profile. As a recommendation, no vehicle component shall generate, or be affected by, electromagnetic interference or radio-frequency interference (EMI/RFI) that can disturb the performance of electrical/electronic equipment as defined in SAE J1113 and UNECE Council Directive 95/54 (R10).

The contractor shall be responsible for ensuring that the entire fuel system, to include, fuel containers, brackets, mounting systems, delivery lines, operating pressures, fuel pressure regulators, fuel cell, piping, connections, gauges, breakaway connections, valves, pressure relief devices, path for the fuel flow, fuel cell requirements and any other related to the hydrogen fuel system meets all applicable Federal, State and Local codes, and represent the highest state of industry practice. In the absence of applicable regulation or specification, decisions shall be based upon safety, reliability and ability to be maintained.

## **3.0 OVERALL REQUIREMENTS**

The contractor shall ensure that the application and installation of major bus subcomponents and systems are compliant with all such subcomponent vendors' requirements and recommendations. Contractor and transit agency shall identify subcomponent vendors that shall submit installation/application approval documents with



the completion of a pilot or lead bus. Components used in the vehicle shall be of heavy-duty design and proven in transit service.

### 3.1 WEIGHT

It shall be a design goal to construct each bus as light in weight as possible without degradation of safety, appearance, comfort, traction or performance. Buses at a capacity load shall not exceed the tire factor limits, brake test criteria or structural design criteria.

### 3.2 CAPACITY

The vehicle shall be designed to carry the gross vehicle load weight, which shall not exceed the bus Gross Vehicle Weight Rating (GVWR).

### 3.3 BUS LENGTHS

For ease of use, the following tolerances will be allowable for each given bus length. Bus length is determined as the measurement from bumper to bumper.

Configuration	Length	Dimensions (to include tolerance)
1	30-Foot Bus	29 ft. 11 in. to 34 ft., 11 in.
2	35-Foot Bus	35 ft. to 39 ft., 11 in.
3	40-Foot Bus	40 ft. to 44 ft., 11 in.
4	45-Foot Bus	45 ft. to 47 ft.
5 (Articulated)	60-Foot Bus	59 ft. to 65ft.

### 3.4 BUS WIDTH

Body width shall be 102 in. (+0, -7 in.).

### 3.5 POWERPLANT

#### 3.5.1 Drive System Description

The bus shall be powered by a zero emission drive system. The OEM shall ensure that the bus structure can successfully accept the installation of the drive system and be operated on the stated duty-cycle for a period of 12 years without a structural failure. At a minimum, the drive system shall comply with applicable local, state and/or federal emissions and useful life requirements. The drive system shall comply with local, state and federal (maintenance) and other applicable sections.

The zero emission drive system shall be rated for the GVWR or greater of the bus.

The drive system shall be sized to provide sufficient power to enable the bus to meet Altoona Federal Bus Test for Performance, and operate all drive accessories.

The bus shall be powered by a zero-emission fuel cell or battery electric drive system. The power source for the vehicle shall be derived from established fuel cell or battery technology that has a field-proven track record of safe, reliable, and durable operation in similar traction applications.

#### 3.5.2 Traction Motor

The traction motor shall be able to provide and recover kinetic energy as well as retard mechanical momentum (regenerative braking). The traction motor shall be a permanent magnet or equivalent AC induction type with a minimum power rating of at least 160 kW and be able to achieve torque of 1019 N\*m(750 lb-ft) or greater. Traction motor speed control shall be continuously variable.



### 3.5.3 Energy Storage System (ESS): Battery Electric and Fuel Cell

Design and performance shall be provided to the transit agency. Energy storage shall be of a commercial design capable of operating in the transit agency environment. The total nominal system storage capacity shall be suitable for the desired operating profile and range of the bus. A thermal management system separate from the cooling system of the traction motor shall be provided to ensure optimal life and performance of the battery system over the environmental operating range.

#### 3.5.3.1 Battery Electric System (BES)

Function and operation of the bus shall be transparent to the bus operator and passengers. The BES shall be designed, sized, and selected to ensure that the vehicle performance specifications, compatibility with charging, and other related requirements are met or exceeded, bearing in mind cost/benefit and reliability variables as they relate to the characteristics of the different battery storage types and shall comply with UN/DOT 38.3 requirements for batteries.

#### 3.5.3.2 Fuel Cell System

The fuel cell bus shall be comprised of a hydrogen fuel cell system generating electrical power to a battery, which transmits mechanical power to the drive axle using a motor. A BES shall augment the drive system by supplying high levels of power to assist in acceleration of the vehicle as well as storing energy during regeneration while braking. The ESS, fuel cell and/or BES drive system combination must have application testing and approval from their respective manufacturers.

All included components shall be capable of diagnostics, archive of failure data, adaptive learning (as applicable) and programming via electronic interfaces.

The bus shall be capable of being reliably fueled to within 95 to 100 percent of the tank's useable capacity, regardless of beginning fuel tank(s) pressure. The fuel system shall incorporate provisions for individual tank de-fueling.

The tank manufacturer shall permanently mark on every fuel tank the capacity, date of manufacture or expiration date, manufacturer name, and certification of compliance to FMCSR, ASME or DOT to include applicable pressure rating. These markings shall be clearly visible when the fuel tank's storage door is opened. **DO NOT STEP ON THE HYDROGEN TANK** shall be clearly visible and permanently marked on all fuel tanks. Additionally, every tank shall be permanently marked at every location where a securing strap or a fixed reference point is located to indicate if each fuel tank is experiencing physical displacement or rotating movement during the operation of the bus.

**Note:** With full understanding that Fuel Cell System storage regulations for heavy duty vehicles continue to be in flux, the fuel system shall be expected to meet at minimum the following overall requirements:

- HGV 2-2014 (or more recent if applicable)
- SAE J2578
- SAE J2579

### 3.5.4 Electric Vehicle System Controller (EVSC)

The drive system shall be able to self-regulate, manage and control energy flow throughout the drive system in order to provide motive performance, storage and accessory loads, as applicable, while maintaining critical system parameters (e.g., voltages, currents, temperatures, etc.) within specified operating ranges.

### 3.5.5 Shop/Depot Charging/Fueling Connections

The battery electric bus (BEB) shall be able to interface and receive a charge from shop/depot charging equipment. The shop/depot charger connection interface shall be located in an appropriate location based on the transit agency's infrastructure for charging and the charger interface shall have its own access door.



**Note:** For Battery Electric Bus Charging, Standard J1772 Charging capability shall be included with manufacturer's suggested charging location.

The fuel cell bus shall have a shop/depot fueling connection/interface and shall be located in an appropriate location based on the transit agency's infrastructure for fueling and the fuel connector shall have its own access door.

Fueling ports shall be provided in a configuration whereby a/either port can be used to refill the hydrogen storage system.

The fueling port(s) receptacle, nozzle/receptacle shall be ANSI/AGA/ NFPA 2 certified and the bus shall be capable of being fueled by a nozzle at high or low flow rates. The transit agency, at the pre-production meeting, shall provide detailed information about fueling nozzle(s).

**Note:** The fueling port(s) receptacle shall be such that connection, by fueling personnel shall be performed without physical strain or interference.

### **3.6 COOLING AND THERMAL MANAGEMENT SYSTEM**

The cooling/thermal management systems shall be of sufficient size to maintain all drive system operating temperatures during severe transit duty cycles in accordance to ambient conditions as specified in Section 1.2 and in accordance with the drive system manufacturers' temperature requirements.

### **3.7 ENERGY STORAGE SYSTEM THERMAL MANAGEMENT**

The ESS shall be supported by a full thermal management system to keep the Li-ion batteries at optimal operational temperature to assure performance and long life. The ESS thermal management system shall be independent and separate from the traction motor cooling system.

When heat is required, an independent heating system specifically tailored to ESS heating shall apply heat to the batteries.

### **3.8 STRUCTURE**

The structure of the bus shall be designed to withstand the transit service conditions typical of an urban or intercity duty cycle throughout its service life. The vehicle structural frame shall be designed to operate with minimal maintenance throughout the 12-year design operating profile. The design operating profile specified by the transit agency shall be considered for this purpose.

### **3.9 CHASSIS**

#### **3.9.1 Suspension**

The front, rear and mid (if articulated bus) suspensions shall be pneumatic type. The basic suspension system shall last the service life of the bus without major overhaul or replacement. Adjustment points shall be minimized and shall not be subject to a loss of adjustment in service. Routine adjustments shall be easily accomplished by limiting the removal or disconnecting the components.

##### **3.9.1.1 Kneeling**

A kneeling system shall lower the entrance(s) of the bus a minimum of 2 in. during loading or unloading operations regardless of load up to GVWR, measured at the longitudinal centerline of the entrance door(s) by the driver.

##### **3.9.1.2 Mounting**

All traction motor mounting shall be mechanically isolated to minimize transfer of vibration to the body structure and provide a minimum clearance of 0.75 in. from the body/frame. Mounts shall control the movement of the traction motor so as not to cause strain in piping and wiring connections to the traction motor.

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### **3.10 WHEELS AND TIRES**

#### **3.10.1 Wheels**

All wheels shall be interchangeable. Wheels shall be compatible with tires in size and load-carrying capacity. Front and rear wheels and tires shall be balanced as an assembly per SAE J1986.

#### **3.10.2 Tires**

Tires shall be suitable for the conditions of transit service and sustained operation at the maximum speed capability of the bus. Load on any tire at GVWR shall not exceed the tire supplier's rating.

### **3.11 BRAKES**

#### **3.11.1 Service Brake**

Buses shall be equipped with brake systems that conform to the requirements of all Federal and State of California regulations, designed so such conformance can be maintained throughout the normal adjustment cycle. The braking system shall include service brakes, a parking and emergency brake. Brakes shall be self-adjusting.

#### **3.11.2 Actuation**

Service brakes shall be controlled and actuated either pneumatically, electrically or hydraulically. Force to activate the brake pedal control shall be an essentially linear function of the bus deceleration rate and shall not exceed 75 lbs. at a point 7 in. above the heel point of the pedal to achieve maximum braking. The heel point is the location of the driver's heel when his or her foot is rested flat on the pedal and the heel is touching the floor or heel pad of the pedal.

### **3.12 INTERLOCKS**

#### **3.12.1 Passenger Door Interlocks**

To prevent opening mid and rear passenger doors while the bus is in motion, a speed sensor shall be integrated with the door controls to prevent the mid/rear doors from being enabled or opened unless the bus speed is less than 2 mph.

To preclude movement of the bus, an accelerator interlock shall lock the accelerator in the closed position, and a brake interlock shall engage the service brake system to stop movement of the bus when the driver's door control is moved to a mid/rear door enable or open position, or a mid or rear door panel is opened more than 3 in. from the fully closed position (as measured at the leading edge of the door panel). The interlock engagement shall bring the bus to a smooth stop and shall be capable of holding a fully loaded bus on a 6 percent grade, with the traction motor in gear, until the interlocks are released. These interlock functions shall be active whenever the vehicle master run switch is in any run position.

### **3.13 ELECTRICAL/ELECTRONIC AND DATA COMMUNICATION SYSTEMS**

#### **3.13.1 Shielding**

All wiring that requires shielding shall meet the following minimum requirements. A shield shall be generated by connecting to a ground, which is sourced from a power distribution bus bar or chassis. Shield(s) shall be connected to at least one location only, typically at the end of the cable. However, certain standards or special requirements, such as SAE J1939 or RF applications, have separate shielding techniques that also shall be used, as applicable.



### 3.13.2 Data Communications

All data communication networks shall be either in accordance with a nationally recognized interface standard, such as those published by SAE, Institute of Electrical and Electronics Engineers (IEEE) or International Organization for Standardization (ISO).

## 3.14 DRIVER PROVISIONS/CONTROLS AND INSTRUMENTATION

### 3.14.1 Driver's Area Controls

The driver's area shall conform to SAE J833, "Human Physical Dimensions,". Switches and controls shall be divided into basic groups and assigned to specific areas, in conformance with SAE Recommended Practice J680, revised 1988, "Location and Operation of Instruments and Controls in Motor Truck Cabs," and be essentially within the hand reach envelope described in SAE Recommended Practice J287, "Driver Hand Control Reach".

**Please Note:** As applicable to this requirement, prime importance/intent is the basic premise that all controls requiring operation while the vehicle is in motion be located so that the driver can manipulate them with his right hand and keep his left hand on the steering wheel.

### 3.14.2 Driver's Controls

Frequently used controls must be in easily accessible locations. These include the door control, kneel control, windshield wiper/washer controls, ramp, and lift, and run switch. Any switches and controls necessary for the safe operation of the bus shall be conveniently located and shall provide for ease of operation. They shall be identifiable by shape, touch and permanent markings. Controls also shall be located so that passengers may not easily tamper with control settings.

All panel-mounted switches and controls shall be marked with easily read identifiers. Graphic symbols shall conform to SAE Recommended Practice J2402, "Road Vehicles – Symbols for Controls, Indicators, and Tell Tales," where available and applicable. Color of switches and controls shall be dark with contrasting typography or symbols.

### 3.14.3 Driver Seat

The driver's seat shall be comfortable and adjustable so that people ranging in size from a 95th-percentile male to a 5th-percentile female may operate the bus.

### 3.14.4 Driver Seat Belt

The belt assembly should be an auto-locking retractor (ALR) or Emergency Locking Retractor (ELR) type system or equivalent. All seat belts should be stored in automatic retractors. The belt shall be mounted to the seat frame so that the driver may adjust the seat without resetting the seat belt. The seat and seatbelt assemblies as installed in the bus shall withstand static horizontal forces as required in FMVSS 207 and 210.

### 3.14.5 Driver's Amenities

A suitable coat hanger shall be installed in a convenient, approved location for the driver's coat.

### 3.14.6 Storage Box

An enclosed driver storage area shall be provided with a positive latching door and/or lock.

## 3.15 MIRRORS

### 3.15.1 Exterior Mirrors

The bus shall be equipped with either manual or remote operated flat mirrors with manual convex mirrors, heated or non-heated, corrosion-resistant, outside rearview mirrors mounted with stable supports to minimize

vibration. Mirrors shall be firmly attached to the bus to minimize vibration and to prevent loss of adjustment with an auto-return breakaway mounting system. Mirrors shall permit the driver to view the roadway along the sides of the bus, including the rear wheels. Mirrors should be positioned to prevent blind spots. Mirrors shall retract or fold sufficiently to allow bus washing operations but avoid contact with windshield.

### 3.15.2 Interior Mirrors

The driver shall be able to observe passengers in the front/entrance and rear/exit areas (if applicable), anywhere in the aisle, and in the rear seats.

## 3.16 WINDOWS

### 3.16.1 Windshield

The windshield shall permit an operator's field of view as referenced in SAE Recommended Practice J1050. The vertically upward view shall be a minimum of 14 deg., measured above the horizontal and excluding any shaded band. The vertically downward view shall permit detection of an object 3½ ft. high no more than 2 ft. in front of the bus. The horizontal view shall be a minimum of 90 deg. above the line of sight. Any binocular obscuration due to a center divider may be ignored when determining the 90 deg. requirement, provided that the divider does not exceed a 3 deg. angle in the operator's field of view. Windshield pillars shall not exceed 10 deg. of binocular obscuration. The windshield shall be designed and installed to minimize external glare as well as reflections from inside the bus.

**Note:** Additional mounted mirror(s) may be provided to assist with driver detection of object to meet the above requirement.

### 3.16.2 Glazing

The windshield glazing material shall have a ¼ in. nominal thickness laminated safety glass conforming to the requirements of ANSI Z26.1 Test Grouping AS-1 and the recommended practices defined in SAE J673. The upper portion of the windshield above the driver's field of view shall have at a minimum of either a dark, shaded band and marked AS-3, with a minimum luminous transmittance of 5 percent when tested in accordance to ASTM D-1003 or single shade, black, non-transparent masking with a zero light transmittance. Zero light transmittance will void all glare from the upper portion of the windshield.

### 3.16.3 Driver's Side Window

The driver's side window shall be the sliding type or three (3) section driver's side window (upper-section non-opening) and shall allow the seated operator to easily adjust the street-side outside rearview mirror. This window section shall slide in tracks or channels designed to last the service life of the bus. The operator's side window shall not be bonded in place and shall be easily replaceable. The glazing material shall have either a single-density tint throughout or in the upper-section of the three (3) section window option if utilized.

The driver's side window glazing material shall have a ¼ in. nominal thickness laminated safety glass conforming to the requirements of ANSI Z26.1-1996 Test Grouping AS-2 and the recommended practices defined in SAE J673.

**Note:** 5 mm nominal thickness tempered glass is also an acceptable material for the driver's side window glazing if laminated glass is not available due to design/shape based on vehicle window configuration.

### 3.16.4 Passenger Windows

Passenger windows shall be easily replaceable without disturbing adjacent windows and shall be mounted so that flexing or vibration from drive system operation or normal road excitation is not apparent. All aluminum and steel material will be treated to prevent corrosion.



### **3.16.5 Emergency Exit (Egress) Configuration**

All side windows shall be fixed in position, except as necessary to meet the emergency escape requirements per 49 CFR 571.217 - Bus Emergency Exits and Window Retention and Release.

## **3.17 HEATING, VENTILATING AND AIR CONDITIONING (HVAC)**

### **3.17.1 Capacity and Performance**

The HVAC climate control system shall be capable of controlling the temperature and maintaining the humidity levels of the interior of the bus. With the bus running at the design operating profile with corresponding door opening cycle, and carrying a number of passengers equal to 150 percent of the seated load, the HVAC system shall control the average passenger compartment temperature within a range between 65 and 80 °F, while maintaining the relative humidity to a value of 50 percent or less. The system shall maintain these conditions while subjected to any outside ambient temperatures within a range of 10 to 95 °F and at any ambient relative humidity levels between 5 and 50 percent.

### **3.17.2 Controls and Temperature Uniformity**

The HVAC system excluding the driver's heater/defroster shall be centrally controlled with an advanced electronic/diagnostic control system with provisions for extracting/reading data. The system shall be compliant with J1939 Communication Protocol for receiving and broadcasting of data.

### **3.17.3 Heater**

The bus shall have an electric heater or heat pump and shall be equipped with safety devices to avoid overheating during operation.

The unit shall be electronically controlled with appropriate diagnostics for troubleshooting. Operation, as well as diagnostic data, shall be stored and shall be retrievable through a PC. The auxiliary heater maintenance/diagnostic information shall be communicated through the appropriate protocol, SAE J1708 or J1939.

### **3.17.4 Controls for the Climate Control System (CCS)**

The controls for the driver's compartment for heating, ventilation and cooling systems shall be integrated and shall meet the following requirements:

### **3.17.5 Heat/Defrost System Fan**

The heat/defrost system fan shall be controlled by a separate switch that has an "off" position and at least two positions for speed control. All switches and controls shall preclude the possibility of clothing becoming entangled, and shields shall be provided, if required.

#### **3.17.5.1 Cable length**

If a cable-operated manual control valve is used, then the cable length shall be kept to a minimum to reduce cable seizing.

### **3.17.6 Driver's Heating, Ventilation and Defroster System**

A separate heating, ventilation and defroster system for the driver's area shall be provided and shall be controlled by the driver.

The system shall meet the following requirements:

#### **3.17.6.1 Driver's heater and defroster system**

The heater and defroster system shall provide heating for the driver and heated air to completely defrost and defog the windshield, driver's side window, and the front door glasses in all operating conditions. Fan(s) shall be able to draw air from the bus body interior and/or exterior through a control device and pass it through the



heater core to the defroster system and over the driver's feet. A minimum capacity of 100 cubic feet per minute (cfm) shall be provided. The driver shall have complete control of the heat and fresh airflow for the driver's area.

#### **3.17.6.2 Defroster supply outlets**

The defroster supply outlets shall be located at the lower edge of the windshield. These outlets shall be durable and shall be free of sharp edges that can catch clothes during normal daily cleaning. The system shall be such that foreign objects such as coins or tickets cannot fall into the defroster air outlets. Adjustable ball vents or louvers shall be provided at the left of the driver's position to allow direction of air onto the side windows.

#### **3.17.7 Air Filtration**

Air shall be filtered before entering the Air Conditioning (AC) system and being discharged into the passenger compartment.

#### **3.17.8 Roof Ventilator(s)**

Each ventilator shall be easily opened and closed manually. When open with the bus in motion, this ventilator(s) shall provide fresh air inside the bus. An escape hatch shall be incorporated into the roof ventilator(s). Roof ventilator(s) shall be sealed to prevent entry of water when closed.

### **3.18 EXTERIOR PANELS, FINISHES AND EXTERIOR LIGHTING**

The bus shall have a clean, smooth, simple design, primarily derived from bus performance requirements and passenger service criteria. The exterior and body features, including grilles and louvers, shall be shaped to facilitate cleaning by automatic bus washers without snagging washer brushes. Water and dirt shall not be retained in or on anybody feature to freeze or bleed out onto the bus after leaving the washer. The body and windows shall be sealed to prevent leaking of air, dust or water under normal operating conditions and during cleaning in automatic bus washers for the service life of the bus.

#### **3.18.1 Exterior panels**

Exterior panels shall be sufficiently stiff to minimize vibration, drumming or flexing while the bus is in service. When panels are lapped, the upper and forward panels shall act as a watershed. However, if entry of moisture into the interior of the vehicle is prevented by other means, then rear cap panels may be lapped otherwise. The windows, hatches and doors shall be able to be sealed. Accumulation of spray and splash generated by the bus's wheels shall be minimized on windows and mirrors.

#### **3.18.2 Body Materials**

Body materials shall be selected and the body fabricated to reduce maintenance, extend durability and provide consistency of appearance throughout the service life of the bus. Detailing shall be kept simple, and add-on devices and trim shall be minimized and integrated into the basic design.

#### **3.18.3 Roof-Mounted Equipment**

A non-skid, clearly marked walkway or steps shall be incorporated on the roof to provide access to equipment without damaging any system or bus paneling.

#### **3.18.4 Repair and Replacement - Side Body Panels**

Structural elements supporting exterior body panels shall allow side body panels below the windows to be repaired in lengths not greater than 12.5 ft.

**Note:** If composite body used for body design, repair and replacement body panel requirement may not apply. However, Section 3.18.11 Finish and Color requirements still apply to body.



### **3.18.5 Rain Gutters**

Rain gutters or equivalent system shall be provided to prevent water flowing from the roof onto the passenger doors and driver's side window. When the bus is decelerated, the gutters shall not drain onto the windshield, driver's side window or door boarding area. Cross sections of the gutters shall be adequate for proper operation.

### **3.18.6 License Plate Provisions**

Provisions shall be made to mount standard-size U.S. license plates per SAE J686 on the front and rear of the bus. These provisions shall direct-mount or recess the license plates so that they can be cleaned by automatic bus-washing equipment without being caught by the brushes. The rear license plate provision shall be illuminated per SAE J587.

### **3.18.7 Splash Aprons**

Splash aprons, composed of ¼ in. minimum composition or rubberized fabric, shall be installed behind and/or in front of wheels as needed to reduce road splash and to protect under floor components. The splash aprons shall extend downward to within 6 in. off the road surface at static conditions. Apron widths shall be no less than tire widths. Splash aprons shall be bolted to the bus understructure. Splash aprons and their attachments shall be inherently weaker than the structure to which they are attached. The flexible portions of the splash aprons shall not be included in the road clearance measurements. Splash apron shall be installed as necessary to protect the wheelchair loading device from road splash. Other splash aprons shall be installed where necessary to protect bus equipment.

### **3.18.8 Service Compartments and Access Doors**

Conventional or pantograph hinged doors shall be used for the rear ESS compartment and for all auxiliary equipment compartments. Access openings shall be sized for easy performance of tasks within the compartment, including tool operating space. Access doors shall be of rugged construction and shall maintain mechanical integrity and function under normal operations throughout the service life of the bus. They shall close flush with the body surface. All doors shall be hinged at the top or on the forward edge and shall be prevented from coming loose or opening during transit service or in bus washing operations. All access doors shall be retained in the open position by props or counterbalancing with over-center or gas-filled springs with safety props and shall be easily operable by one person. Springs and hinges shall be corrosion resistant. Latch handles shall be flush with, or recessed behind, the body contour and shall be sized to provide an adequate grip for opening. Access doors shall allow for the servicing of other components or systems.

### **3.18.9 Access Door Latch/Locks**

Access doors larger than 100 sq. in. in area shall be equipped with corrosion-resistant flush-mounted latches or locks except for fuel fill access doors. All such access doors that require a tool to open shall be standardized throughout the vehicle and will require a nominal 5/16 in. square male tool to open or lock.

### **3.18.10 Bumpers**

Bumpers shall provide impact protection for the front and rear of the bus. Bumper height shall be such that when one bus is parked behind another, a portion of the bumper faces will contact each other.

#### **3.18.10.1 Front Bumper**

No part of the bus, including the bumper, shall be damaged as a result of a greater than 1.5 mph impact of the bus at curb weight with a fixed, flat barrier perpendicular to the bus's longitudinal centerline. The bumper shall protect the bus from damage as a result of 6.5 mph impacts at any point by the common carriage with contoured impact surface defined in FMVSS 301, loaded to 4000 lbs. parallel to the longitudinal centerline of the bus. It shall protect the bus from damage as a result of a 3.2 mph impact into the corners at a 30 deg. angle to the longitudinal centerline of the bus. The energy absorption system of the bumper shall be independent of every power system of the bus and shall not require service or maintenance in normal operation during the service life of the bus.



### 3.18.10.2 Rear Bumper

No part of the bus, including the bumper, shall be damaged as a result of a 2 mph impact with a fixed, flat barrier perpendicular to the longitudinal centerline of the bus. The bumper shall return to its pre-impact shape within 10 minutes of the impact. When using a yard tug with a smooth, flat plate bumper 2 ft. wide contacting the horizontal centerline of the rear bumper, the bumper shall provide protection at speeds up to 5 mph, over pavement discontinuities up to 1 in. high, and at accelerations up to 2 mph/sec. The rear bumper shall protect the bus when impacted anywhere along its width by the common carriage with contoured impact surface defined in Figure 2 of FMVSS 301 loaded to 4000 lbs., at 4 mph parallel to or up to a 30 deg. angle to the longitudinal centerline of the bus. The rear bumper shall be shaped to preclude unauthorized riders standing on the bumper. The bumper shall not require service or maintenance in normal operation during the service life of the bus. The bumper may increase the overall bus length specified by no more than 7 in.

### 3.18.11 Finish and Color

All exterior surfaces shall be smooth and free of wrinkles and dents. Exterior surfaces to be painted shall be properly prepared as required by the paint system Supplier prior to application of paint to ensure a proper bond between the basic surface and successive coats of original paint for the service life of the bus. Drilled holes and cutouts in exterior surfaces shall be made prior to cleaning, priming and painting, where possible, to prevent corrosion. The bus shall be painted prior to installation of exterior lights, windows, mirrors and other items that are applied to the exterior of the bus. Body filler materials may be used for surface dressing, but not for repair of damaged or improperly fitted panels.

**Note:** If equipment is pre-installed prior to painting, the equipment installed will be considered part of the bus body system when applying finish and color. Color and finishes shall match and be consistent as a system.

Proper adhesion between the basic surface and successive coats of the original paint shall be measured using an adhesion tester as outlined in ASTM D4541-85. Adhesion shall be a minimum 300 ft.-lbs. The bus manufacturer shall supply test samples of the exterior surface for each step of the painting process that may be subject to adhesion testing per ASTM G4541-87 and ASTM D4145-85. ASTM D4541-93 may be used for inspection testing during assembly of the vehicle.

The bus shall be the manufacturer's basic paint color bus, with no clear coat and no customer specific exterior decals such as transit agency logos. Fleet number & safety decals are still required prior to acceptance of the vehicle.

**Note:** Optional color paint/coatings or decaling shall be provided separately for review.

### 3.18.12 Decals, Numbering and Signing

Bus numbers and other required signing shall be applied to the inside and outside of the bus as required. Signs shall be durable and fade-, chip- and peel-resistant. They may be painted signs, decals or pressure-sensitive appliques. Signs shall be provided in compliance with the ADA requirements.

### 3.18.13 Passenger Information

ADA priority seating signs as required shall be provided to identify the seats designated for passengers with disabilities.

### 3.18.14 Backup Light/Alarm

Visible and audible warnings shall inform following vehicles or pedestrians of reverse operation. Visible reverse operation warning shall conform to SAE Standard J593. Audible reverse operation warning shall conform to SAE Recommended Practice J994 Type C or D.



### **3.18.15 Doorway Lighting**

Lamps at the front and rear passenger doorways shall comply with ADA requirements and shall activate only when the doors open. These lamps shall illuminate the street surface to a level of no less than 1 foot-candle for a distance of 3 ft. outward from the outboard edge of the door threshold. The lights may be positioned above or below the lower daylight opening of the windows and shall be shielded to protect passengers' eyes from glare.

### **3.18.16 Turn Signals**

Turn-signal lights shall be provided on the front, rear, curb and street sides of the bus in accordance with federal regulations.

### **3.18.17 Headlights**

Headlamps shall be designed for ease of replacement.

### **3.18.18 Brake Lights**

Brake lights shall be provided in accordance with federal regulations. The bus shall include red, high and center mount brake lamp(s) along the backside of the bus in addition to the lower brake lamps required under FMVSS. The high and center mount brake lamp(s) shall illuminate steadily with brake application. Transit agency to specify the size of the high and center mount brake lamp(s).

### **3.18.19 Service Area Lighting (Interior and Exterior)**

LED lamps shall be provided in the rear ESS compartment (as applicable) and all other compartments where service may be required to generally illuminate the area for night emergency repairs or adjustments. These service areas shall include, but not be limited to, the rear ESS compartment, the communication box, junction/apparatus panels and passenger door operator compartments. Lighting shall be adequate to light the space of the service areas to levels needed to complete typical emergency repairs and adjustments. The service area lamps shall be suitable for the environment in which they are mounted.

## **3.19 INTERIOR PANELS AND FINISHES**

Materials shall be selected on the basis of maintenance, durability, appearance, safety, flammability and tactile qualities. Materials shall be strong enough to resist everyday abuse and be vandalism and corrosion resistant. Trim and attachment details shall be kept simple and unobtrusive. Interior trim shall be secured to avoid resonant vibrations under normal operational conditions.

Interior surfaces more than 10 in. below the lower edge of the side windows or windshield shall be shaped so that objects placed on them fall to the floor when the coach is parked on a level surface. Any components and other electrical components within close proximity to these surfaces shall also be resistant to this cleaning method.

### **3.19.1 Interior Panels**

Panels shall be easily replaceable and tamper resistant. They shall be reinforced, as necessary, to resist vandalism and other rigors of transit bus service. Individual trim panels and parts shall be interchangeable to the extent practicable. Interior panels are required to meet FMVSS 302.

### **3.19.2 Driver Area Barrier**

A barrier or bulkhead between the driver and the street-side front passenger seat shall be provided. The barrier shall minimize glare and reflections in the windshield directly in front of the barrier from interior lighting during night operation. Location and shape must permit full seat travel and reclining possibilities that can accommodate the shoulders of a 95th-percentile male. The partition shall have a side return and stanchion to prevent passengers from reaching the driver by standing behind the driver's seat. The lower area between the seat and panel must be accessible to the driver. The partition must be strong enough in conjunction with the entire partition assembly for mounting of such equipment as flare kits, fire extinguishers (1.2 kg),



microcomputer, public address amplifier, etc. The panel should be properly attached to minimize noise and rattles.

### **3.19.3 Modesty Panels**

Sturdy divider panels constructed of durable, unpainted, corrosion-resistant material complementing the interior shall be provided to act as both a physical and visual barrier for seated passengers.

Design and installation of modesty panels located in front of forward-facing seats shall include a handhold or grab handle along its top edge. These dividers shall be mounted on the sidewall and shall project toward the aisle no farther than passenger knee projection in longitudinal seats or the aisle side of the transverse seats. Modesty panels shall extend from at least the window opening of the side windows, and those forward of transverse seats shall extend downward to 1 and 1½ in. above the floor. Panels forward of longitudinal seats shall extend to below the level of the seat cushion. Dividers positioned at the doorways, where applicable, shall provide no less than a 2½ in. clearance between the modesty panel and a fully open, inward opening door, or the path of a deploying flip-out ramp to protect passengers from being pinched. Modesty panels installed at doorways shall be equipped with grab rails if passenger assists are not provided by other means.

The modesty panel and its mounting shall withstand a static force of 250 lbs. applied to a 4 × 4 in. area in the center of the panel without permanent visible deformation.

### **3.19.4 Fastening**

Interior panels shall be attached so that there are no exposed unfinished or rough edges or rough surfaces. Fasteners should be corrosion resistant. Panels and fasteners shall not be easily removable by passengers. Exposed interior fasteners should be minimized, and where required shall be tamper resistant.

### **3.19.5 Insulation**

Any insulation material used between the inner and outer panels shall minimize the entry and/or retention of moisture. Insulation properties shall be unimpaired during the service life of the bus. Any insulation material used inside the rear ESS compartment shall not absorb or retain oils or water and shall be designed to prevent casual damage that may occur during maintenance operations.

The combination of inner and outer panels on the sides, roof, wheel wells and ends of the bus, and any material used between these panels, shall provide a thermal insulation sufficient to meet the interior temperature requirements. The bus body shall be thoroughly sealed so that the driver or passengers cannot feel drafts during normal operations with the passenger doors closed.

### **3.19.6 Floor Covering**

The floor covering shall have a non-skid walking surface that remains effective in all weather conditions. The floor covering, as well as transitions of flooring material to the main floor and to the entrance and exit area, shall be smooth and present no tripping hazards. Seams shall be sealed/welded per manufacturer's specifications. The standee line shall be approximately 2 in. wide and shall extend across the bus aisle. The color and pattern shall be consistent throughout the floor covering.

### **3.19.7 Interior Lighting**

The light source shall be located to minimize windshield glare, with distribution of the light focused primarily on the passengers' reading plane while casting sufficient light onto the advertising display. The lighting system may be designed to form part of or the entire air distribution duct.

### **3.19.8 Driver's Area**

The driver's area shall have a light to provide general illumination, and it shall illuminate the half of the steering wheel nearest the driver to a level of 5 to 10 foot-candles.



### **3.19.9 Seating Areas**

The interior lighting system shall provide a minimum 15 foot-candle illumination on a 1 sq. ft. plane at an angle of 45 degrees from horizontal, centered 33 in. above the floor and 24 in. in front of the seat back at each seat position. Allowable average light level for the rear bench seats shall be 7 foot-candles.

#### **3.19.10 Vestibules/Doors**

Floor surface in the aisles shall be a minimum of ten (10) foot-candles, and the vestibule area a minimum of four (4) foot-candles with the front doors open and a minimum of Zero foot-candles with the front doors closed. The front entrance area and curb lights shall illuminate when the front door is open and master run switch is in the "lights" positions. Rear exit area and curb lights shall illuminate when the rear door is unlocked.

#### **3.19.11 Step Lighting**

Step lighting for the intermediate steps between lower and upper floor levels shall be a minimum of 4 foot-candles and shall illuminate in all drive system run positions. The step lighting shall be low profile to minimize tripping and snagging hazards for passengers and shall be shielded as necessary to protect passengers' eyes from glare.

#### **3.19.12 Ramp Lighting**

Exterior and interior ramp lighting shall comply with federal regulations.

#### **3.19.13 Turntable Lighting (Articulated Coach)**

Lighting in the turntable can be reduced to 7 foot-candles.

#### **3.19.14 Farebox Lighting**

A light fixture shall be mounted in the ceiling above the farebox location. The fixture shall be capable of projecting a concentrated beam of light on the farebox. This light will automatically come on whenever the front doors are opened and the run switch is in the "night run" or "night park" position.

#### **3.19.15 Fare Collection**

Space and structural provisions shall be made for installation of currently available fare collection devices, which shall be as far forward as practicable. Location of the fare collection device shall not restrict traffic in the vestibule, including wheelchairs if a front door loading device is used, and shall allow the driver to easily reach the farebox controls and to view the fare register. The farebox shall not restrict access to the driver area, shall not restrict operation of driver controls and shall not—either by itself or in combination with stanchions, transfer mounting, cutting and punching equipment, or route destination signs—restrict the driver's field of view per SAE Recommended Practice J1050. The location and mounting of the fare collection device shall allow use, without restriction, by passengers.

The farebox location shall permit accessibility to the vault for easy manual removal or attachment of suction devices. Meters and counters on the farebox shall be readable on a daily basis. The floor under the farebox shall be reinforced as necessary to provide a sturdy mounting platform and to prevent shaking of the farebox.

#### **3.19.16 Interior Access Panels and Doors**

Access for maintenance and replacement of equipment shall be provided by panels and doors that appear to be an integral part of the interior. Access doors shall be hinged with gas props or over-center springs, where practical, to hold the doors out of the mechanic's way. Panels shall prevent entry of mechanism lubricant into the bus interior. All fasteners that retain access panels shall be captive in the cover.



## **3.20 PASSENGER ACCOMMODATIONS**

### **3.20.1 Passenger Seating - Arrangements and Seat Style**

The passenger seating arrangement in the bus shall be such that seating capacity is maximized and in compliance to the following requirements. Passenger seats shall be arranged in a transverse, forward-facing configuration, except at the wheel housings and turntable, if applicable, where aisle-facing seats may be arranged as appropriate with due regard for passenger access and comfort. Other areas where aisle-facing seats may be provided are at wheelchair securement areas and platforms. However, if wheelchair accommodation only allows for up to one (1) rearward facing space, and ADA requirements are met, this configuration may be acceptable.

### **3.20.2 Turntable Seating (Articulated Coach)**

Handholds or leaning rail shall be provided.

### **3.20.3 Hip-to-Knee Room**

Hip-to-knee room measured from the center of the seating position, from the front of one seat back horizontally across the highest part of the seat to a vertical surface immediately in front, shall be a minimum of 26 in. At all seating positions in paired transverse seats immediately behind other seating positions, hip-to-knee room shall be no less than 27 in.

### **3.20.4 Foot Room**

Foot room, measured at the floor forward from a point vertically below the front of the seat cushion, shall be no less than 14 in. Seats immediately behind the wheel housings and modesty panels may have foot room reduced.

### **3.20.5 Aisles**

The aisle between the seats shall be no less than 20 in. wide at seated passenger hip height. Seat backs shall be shaped to increase this dimension to no less than 24 in. at 32 in. above the floor (standing passenger hip height).

### **3.20.6 Passenger Assists**

Passenger assists in the form of full grip, vertical stanchions or handholds shall be provided for the safety of standees and for ingress/egress. Passenger assists shall be convenient in location, shape and size for both the 95th-percentile male and the 5th-percentile female standee. Starting from the entrance door and moving anywhere in the bus and out the exit door, a vertical assist shall be provided either as the vertical portion of the seat back assist or as a separate item so that a 5th-percentile female passenger may easily move from one assist to another using one hand and the other without losing support.

### **3.20.7 Assists**

Excluding those mounted on the seats and doors, the assists shall have a cross-sectional diameter between 1¼ and 1½ in. or shall provide an equivalent gripping surface with no corner radii less than ¼ in. All passenger assists shall permit a full hand grip with no less than 1½ in. of knuckle clearance around the assist. Passenger assists shall be designed to minimize catching or snagging of clothes or personal items and shall be capable of passing the NHTSA Drawstring Test.

### **3.20.8 Front Doorway**

Front doors, or the entry area, shall be fitted with ADA-compliant assists. Assists shall be as far outward as practicable, but shall be located no farther inboard than 6 in. from the outside edge of the entrance step and shall be easily grasped by a 5th-percentile female boarding from street level. Door assists shall be functionally continuous with the horizontal front passenger assist and the vertical assist and the assists on the wheel housing or on the front modesty panel.



### **3.20.9 Vestibule**

The aisle side of the driver's barrier, the wheel housings, and when applicable, the modesty panels shall be fitted with vertical passenger assists that are functionally continuous with the overhead assist and that extend to within 36 in. of the floor. These assists shall have sufficient clearance from the barrier to prevent inadvertent wedging of a passenger's arm.

A horizontal passenger assist shall be located across the front of the bus and shall prevent passengers from sustaining injuries on the fare collection device or windshield in the event of a sudden deceleration. Without restricting the vestibule space, the assist shall provide support for a boarding passenger from the front door through the fare collection procedure. The assist shall be no less than 36 in. above the floor. The assists at the front of the bus shall be arranged to permit a 5th-percentile female passenger to easily reach from the door assist, to the front assist, to vertical assists on the driver's barrier, wheel housings or front modesty panel.

### **3.20.10 Rear Doorway(s)**

Vertical assists that are functionally continuous with the overhead assist shall be provided at the aisle side of the transverse seat immediately forward of the rear door and on the aisle side of the rear door modesty panel(s). Passenger assists shall be provided on modesty panels that are functionally continuous with the rear door assists. Rear doors, or the exit area, shall be fitted with assists having a cross-sectional diameter between 1¼ and 1½ in. or providing an equivalent gripping surface with no corner radii less than ¼ in., and shall provide at least 1½ in. of knuckle clearance between the assists and their mounting. The assists shall be designed to permit a 5th-percentile female to easily move from one assist to another during the entire exiting process.

### **3.20.11 Overhead**

Except forward of the standee line and at the rear door, a continuous, full-grip, overhead assists shall be provided. This assist shall be located over the center of the aisle seating position of the transverse seats. The assist shall be no less than 70 in. above the floor. Overhead assists shall simultaneously support 150 lbs. on any 12 in. length. No more than 5 percent of the full grip feature shall be lost due to assist supports.

### **3.20.12 Passenger Doors**

Doorways will be provided in the locations and styles as follows: Passenger doors and doorways shall comply with ADA requirements.

#### **3.20.12.1 Front door**

Door shall be forward of the front wheels and under direct observation of the driver.

#### **3.20.12.2 Rear Door(s)**

Curbside doorway centerline located forward or rearward of the point midway between the front door centerline and the rearmost seat back. (As applicable) for commuter coach.

### **3.20.13 Door Glazing**

The upper section of both front and rear doors shall be glazed for no less than 45 percent of the respective door opening area of each section. The lower section of the front door shall be glazed for no less than 25 percent of the door opening area of the section. Door glazing shall be easily replaceable. The front door panel glazing material shall have a nominal ¼ in. thick laminated safety glass conforming with the requirements of ANSI Z26.1 Test Grouping 2 and the recommended practices defined in SAE J673.

### **3.20.14 Door Projection**

#### **3.20.14.1 Exterior**

The exterior projection of the front doors beyond the side of the bus shall be minimized and shall not block the line of sight of the rear exit door via the curb side mirror when the doors are fully open.



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**3.20.14.2 Interior**

Projection inside the bus shall not cause an obstruction of the rear door mirror or cause a hazard for standees.

**3.20.15 Emergency Operation**

In the event of an emergency, it shall be possible to manually open doors designated as emergency exits from inside the bus using a force of no more than 25 lbs. after actuating an unlocking device. The unlocking device shall be clearly marked as an emergency-only device and shall require two distinct actions to actuate. The respective door emergency unlocking device shall be accessible from the doorway area. The unlocking device shall be easily reset by the operator without special tools or opening the door mechanism enclosure. Doors that are required to be classified as "emergency exits" shall meet the requirements of FMVSS 217.

**3.20.16 Door Control**

The door control shall be located in the operator's area within the hand reach envelope described in SAE Recommended Practice J287, "Driver Hand Control Reach". The driver's door control shall provide tactile feedback to indicate commanded door position and resist inadvertent door actuation.

**3.20.17 Accessibility Provisions**

Space and body structural provisions shall be provided at the front or rear door of the bus to accommodate a wheelchair loading system.

**3.20.18 Loading System for 30 to 60 ft. Low-Floor and High-Floor Buses**

An automatically controlled, power-operated ramp system and/or high-floor lift shall be compliant to requirements defined in 49 CFR Part 38, Subpart B, §38.23c and 49 CFR 571.403 (FMVSS 403) shall provide ingress and egress quickly, safely and comfortably, both in forward and reverse directions, for a passenger in a wheelchair from a level street or curb.

Front door location of loading system, flip-out design ramp with no less than a 6:1 Slope. The wheelchair loading system shall be located at the front or rear door being capable of deploying to the ground at a minimum 6:1 slope.

**3.20.19 Wheelchair Accommodations**

Two (2) locations, as close to the wheelchair loading system as practical, shall provide parking space and securement system compliant with ADA requirements for a passenger in a wheelchair.

**3.20.20 Passenger Stop Request/Exit Signal**

A passenger "stop requested" signal system that complies with applicable ADA requirements defined in 49 CFR, Part 38.37, shall be provided. At each wheelchair passenger position and at priority seating positions, additional provisions shall be included to allow a passenger in a mobility aid to easily activate the "stop requested" signal.

An auxiliary passenger "stop requested" signal shall be installed at the rear door to provide passengers standing in the rear door/exit area a convenient means of activating the signal system. The signal shall be a heavy-duty push button type located in the rear door vicinity. Button shall be clearly identified as "passenger signal."

**3.20.21 Signal Chime**

A single "stop requested" chime shall sound when the system is first activated. A double chime shall sound anytime the system is activated from wheelchair passenger areas.

Exit signals located in the wheelchair passenger area shall be no higher than 4 ft. above the floor. Instructions shall be provided to clearly indicate function and operation of these signals.



## **Attachment C**

### **Base Bus Configurations**



**PROTERRA**

Attachment C -  
Base Bus Configuration

## Proterra Catalyst XR Battery Electric Bus (BEB) Base / Standard Configuration – 40' Low Floor Coach

APTA Tech Spec Ref. #	Category	Base Configuration / Included in Base Bus Price
TS 9	Propulsion System (Electric) Energy Storage System	Base - ZX5: 450 kWh Optional ZX5MAX: 675kWh
TS 9	Electric Drivetrain	Base - 250kW ProDrive (Motor, Invertor, & 4-speed Transmission)
	Overhead Charging Interface (Vehicle Side)	Base – None
TS 9	Charge Ports	Base - One (1) Standard J1772-CCS Charge Port: Curbside Rear
TS 32.1	Wheels (22.5x9)	Base - Clean Buff Aluminum (ALCOA)
TS 32.1	Wheel & Tire Accessories	Base - Torque Indicators, Green
TS 32.2	Tires	Base - Michelin X InCity Energy Z LR L- 315/80R22.5
TS 46.3	Visors / Sun Shades	Base - One Shade on Front Window 30" (Mesh)
TS 46.6	Driver Foot Controls	Base - Non-Adjustable Pedals
TS 49.8	Mirrors (Exterior)	Base - Low Mount Streetside Exterior Mirror / High-Mount Curbside Mirror.
TS 71.1	Appearance (Exterior Graphics)	Base - Base bus gel coat in white
TS 75.8	Floor Covering	Base - Altro Meta 2.7
TS 49	Driver's Seat	Base - Recaro Ergo Metro

Base / Standard Bus Configuration – 40' Low-Floor BEB Coach





APTA Tech Spec Ref. #	Category	Base Configuration / Included in Base Bus Price
TS 81.5	Wheelchair Accommodations	Base -2 ADA Positions with VPRO II 4-point ADA securement system (Q'Straint)
TS 79	Passenger Assists (Stanchions)	Base - Stainless steel except exit stanchions (yellow), 2 modesty panels without polycarbonate screens
TS 79.5	Overhead	Base - 6 Grey Nylon Prima Grab Straps
TS 80	Passenger Doors	Base - Ventura Pneumatic, Rear door is In-Swinging
TS 80	Rear Door Operation	Base - Driver Controlled Rear Door
TS 80	Door Safety	Base - Dual Redundant System (Sensitive Edge + Motor Feedback)
TS 81.1	Loading Systems for Low-Floor Bus (ADA Ramp)	Base - Ricon 1:4
TS 70.2	Bike Rack	Base - No Bike Rack
TS 70.2	Bike Rack Sensor	Base - No Sensor Installed
TS 66	Front License Plate Holder	Base -None
TS78	Passenger Seating	Base -USSC <b>Diablo</b> Seating (34 passenger)
TS 85	Passenger Stop Request / Exit Signal	Base - Touch Tape
TS 85	Stop Request, Misc	Base - Single Switch on Stanchion Forward of Rear Door
TS 85.1	ADA Stop Request Signal Type	Base - Touch Pad on Seat
TS 83	Destination Signs	Base - Hanover, Amber Front - 160x17, Curb Side - 112x15, Rear - 48x15
TS 86.4.4	Emergency Alarm	Base - Covert switch to Destination sign only
TS 85.1	Stop Requested-Next Stop Sign	Base - Backlit "Stop Requested" sign, Transign #SRD300
TS 86.3	Automatic Passenger Counter	Base - None
	WiFi	Base - None
	Winter Weather Package	Base - Heated Front Doorway
TS 62	Hatches	Base - 2x Opaque Manually Operated (40 foot)
TS 75.1	Operator's Barrier	Base - None
TS 72.1	Passenger Information System	Base - None
TS 53.4	Passenger Windows	Base - Single-Piece, Flush Mounted, 50% Grey, 5mm Tempered Glass
TS 53.2	Emergency Exit (Egress) Configuration	Base (40') - 4 Egress Windows (3 SS & 1 CS)

Base / Standard Bus Configuration – 40' Low-Floor BEB Coach



APTA Tech Spec Ref. #	Category	Base Configuration / Included in Base Bus Price
TS 72	Decals, Numbering and Signaling	Base - Proterra Decal Package (English Only), Note: Template Req'd
TS 75.9	Interior Lighting	Base - Hadley, White
TS 76	Fare Collection	Base - None
TS 86.1	Camera Surveillance System	Base - None
	Passive Collision Avoidance System	Base - None
TS 86.4	ITS	Base - None
TS 86.2	Public Address System	Base - REI AM/FM CD-3000 w/ Gooseneck mic (foot switch operated) & 8 Interior Speakers, 1 exterior
TS 86.4	Voice/CB (2-way) Radio System	Base - None
TS 25	Towing	Base - Capable of front tow, no rear tow, no rear ditch extraction (40 foot)
	Tow Connections	Base - Single Male Industrial fitting @ bumper and Rear SS access Panel
TS 5.10	Fire Detection / Suppression	Base - Sophisticated Fire Detection in HV Batteries (as part of the BMS) & Fire Extinguisher
	Switch Panels	Base - Standard Proterra Layout
	Luggage Racks	Available Option: Overhead Luggage Racks

### Base / Standard Bus Configuration – 40' Low-Floor BEB Coach



## **Attachment D**

### Technical Questionnaires

State of California  
**Technical Questionnaire**  
**Zero Emission Buses/Contract 1-19-23-17C**  
Proterra Operating Company, Inc.

Attachment D

Item	Specification Reference	Requirement	Provide details as applicable Submit 1 per line item or attach additional details (if required)
1	n/a	Bus Vendor	Proterra Operating Company, Inc.
2		Bus Manufacturer	Proterra Operating Company, Inc.
3		Bus Model #	40 ft ZX5+, ZX5 MAX
4		Bus Operating Range (in Miles)	Range (Miles): ZX5+ 450 kWh up to 232 miles range; ZX5 MAX up to 329 miles range
5		Bus Type (Provide applicable details) 1. Fuel Cell Eclectic Bus 2. Battery Electric Bus	<b>Circle or indicate one:</b>  <b>2. Battery Electric Bus</b>
6	1.1	High-Floor Design	Proterra does not build a high-floor bus.
7	1.1	Low-Floor Design	Yes
8	1.2	Operating Parameters	operating parameters are -30F to +110F.
9	1.3	Materials meet FMVSS 302	Yes
10	1.4	Materials meet Section 6002 of the Resource Conservation and Recovery Act	Yes
11	1.5	Service Life	12 years, 500,000 miles
12	2.2	Altitude Testing	Yes, as required
13	3.1	Weight Please provide vehicle Tare Weight	ZX5+ 29,849 lbs, ZX5 MAX 33,149 lbs
14	3.2	Capacity Please provide (GVWR)	43,650 lbs
15	3.3	Bus Length	40 ft ZX5: 510 inches (42.5 ft)
16	3.4	Bus Width	102 inches
17		Drive System	Electric
18		Traction Motor (max torque) Please provide details	Peak power: 250 kWh Max torque: 19,700 NM
19		Battery Electric System meets UN/DOT 38.3	Yes, meets requirements for UN/DOT 38.3
20		Battery Size(s) /(as applicable)	(L*W*H) 2089*960*177 mm
21		Battery Pack (# of Cells)/(as applicable)	Base: 4 x 112.5 KWH packs (15 Modules per Pack)
22	3.5	Fuel Cell System complies with SAE J2578, SAE J2579  Provide details on: - # of stacks - Capacity of individual tanks - Total capacity of Hydrogen Tank System	Proterra does not offer a Hydrogen Fuel Cell Bus
23		Shop/Depot Charging/Fueling Connections compliant with current Standards Please provide details on charging/fueling connection(s):  - Type connector(s) a. J1772 b. J3068 - Location of ports - AC Charge Rate - DC Charge Rate -Maximum J3068 Charge Rate	The Proterra ZX5 buses are equipped with J1772 charge connectors. Base is for a single connector, located curb side rear. Options are available for two connectors, one street side rear, one curb side rear. The ZX5 buses can also be equipped, as an option with overheard charging capability.
24	3.6	Cooling and Thermal Management System (Provide details on type/manufacture)	Modine



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Item	Specification Reference	Requirement	Provide details as applicable Submit 1 per line item or attach additional details (if required)
25	3.7	Energy Storage System Thermal Management	Modine/Valeo
26	3.8	Structure (per Sect. 1.5 of the Specification requirement and operating parameters of District/Agency)	The bus structure is designed to meet the requirements for an inter/intra city transit bus and has successfully met the requirements to certify as a 12-year, 500,000 mile vehicle.
27	3.9	Chassis (per Sect. 1.5 of the Specification requirement and operating parameters of District/Agency)	The Proterra ZX5 buses meet all requirements for suspension, kneeling and mounting.
28		Suspension (per Sect. 1.5 of the Specification requirement and operating parameters of District/Agency)	The Proterra ZX5 buses are equipped with air suspension, independent at the front with 1 air spring per side, and an h-frame at the rear equipped with four air springs. Dual damping shock absorbers, two for the front and four for the rear dampen the ride and improve the quality for passengers and operators.
29		Kneeling minimum of 2 inches	Proterra ZX5 buses kneel a minimum of 2.5 inches.
30		Motor mounting provides min clearance of 0.75 inches from frame	Yes
31	3.10	Wheels and Tires	Meet all applicable standards.
32		Wheels per SAE J1986	Standard wheels are Alcoa aluminum with options for DuraBright and DuraFlange available.
33		Tires Provide details on: Size Type Manufacturer Rating	Standard size tires for Proterra ZX5 buses are 315/80R22.5 radial tires. Unless otherwise specified Michelin X InCity Energy Z, LR L are provided.
34	3.11	Brakes (Provide details on type/manufacturer for each section/sub-section)	The Proterra bus is equipped with Knorr Bremse air disc brakes.
35		Service Brake	Knorr Bremse air disc brakes are balanced to provide, in conjunction with the regenerative braking a combination which will bring the bus to a smooth stop without exerting excessive g-forces on passenger or the operator.
36		Actuation	Service and parking brakes are activated using compressed air. The brake system is equipped with ABS and ATC.
37	3.12	Interlocks	The Proterra ZX5 buses are equipped with front and rear door interlocks
38		Passenger Door Interlocks	Passenger door interlocks are actuated whenever the doors are opened. The interlocks deactivate the throttle and apply partial pressure to the service brakes to prevent the bus from moving.

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Item	Specification Reference	Requirement	Provide details as applicable Submit 1 per line item or attach additional details (if required)
39	3.13	Electrical/Electronic and Data Communication Systems (Provide details on type/manufacturer)	VDO multiplexing with CAN communications
40		Shielding per SAE J1939 for applicable electrical/electronic or RF application	As specified.
41		Data Communication Provide details on:  PA System - Type - Manufacturer - # of Speakers  Signage (Interior) - Type - Manufacturer - # of Signs (location)	Bus PA standard system is provided by REI. There are six speakers for the 40 ft bus. Interior (stop request) sign is provided by Transign, located in the front header face. Depending on the options selected by procuring agencies, additional signa can be added.
42	3.14	Driver Provisions/Controls and Instrumentation per SAE Best Practices and Standards/Codes for each section/sub-section	Complies with all.
43		Driver's Area Controls	Complies with all.
44		Driver's Controls	Complies with all.
45		Driver Seat Provide details on Brand/Model	Driver's seat is Recaro, Ergo Metro
46		Driver Seat Belt	Three-point seat belt
47		Driver's Amenities	Coat hangar/strap
48		Storage Box	Provided on curb side front wheel house
49	3.15	Mirrors	Per all applicable regulations.
50		Exterior Mirrors Provide details on type/manufacturer	Safe fleet, locations as specified. Heated & remote
51		Interior Mirrors	Safe fleet, locations as specified.
52	3.16	Windows per SAE Best Practices and Standards/Codes for each section/sub-section	Arow Global, 5mm tempered glass
53		Windshield (minimum upward/downward views)	Meets requirements of SAE J1050
54		Glazing ≥ ¼ in. nominal thickness laminated safety glass conforming to requirements of ANSI Z26.1 Test Grouping AS-1 and recommended practices per SAE J673	Windshield complies with all requirements.
		Driver's Side Window ≥ ¼ in. nominal thickness laminated safety glass conforming to requirements of ANSI Z26.1-1996 Test Grouping AS-2 and recommended practices per SAE J673	Euro-style flush mount; complies with all requirements.
55		Passenger Windows - Aluminum/steel material treated to prevent corrosion	Euro-style flush mount windows are standard.
56		Emergency Exit (Egress Configuration)	Egress configurations for the 40 ft ZX5 (three street side and one curbside) meet FMVSS 217 requirements.



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Item	Specification Reference	Requirement	Provide details as applicable Submit 1 per line item or attach additional details (if required)
58	3.17	Heating, Ventilation and Air Conditioning (HVAC) Provide details on: - Type - Manufacturer for each section/sub-section	The rooftop HVAC unit is a Valeo Revo- E Global (all-electric).
59		Capacity and Performance Provide details on: - BTU's	The rooftop HVAC unit is a Valeo Revo-E Global (all-electric) with an integral heat pump and auxiliary heat. This unit has integral chillers for auxiliary cooling/battery cooling using R407c. Capacities: • AC: (102,000 BTU/Hr) • Heat: (133,000 BTU/Hr)
60		Controls and Temperature Uniformity	n/a
61		Heater per appropriate protocol; SAE J1708 or J1939	Both J1708 and J1939
62		Controls and Climate Control System (CCS)	Controls are integrated with the HVAC system, and are programmable to pre-set parameters. Driver's heat and defrost controls are separate.
63		Heat/Defrost System Fan	Multiple speed defroster fan, operator controlled. Passenger cabin heat is programmable to pre-set parameters.
64		Cable Length	n/a
65		Driver's Heating, Ventilation and Defroster System	The electric driver's heater and defroster systems are integrated, separately ducted and fully driver controlled.
66		Driver's Heater and Defroster System	The driver's heater and defroster system are designed to provide additional heat to the operator's area and to defrost/defog the windshield as required.
67		Defroster Supply Outlets	n/a
68		Air Filtration Provide details on: - Efficiency - Partical Size	Filters meet the requirements for ANSI/ASHRAE 52.1 for 5 percent or better atmospheric dust spot efficiency, 50 percent weight arrestance and a minimum dust holding capacity of 120 g per 1000 cfm cell.
69		Roof Ventilators	Two for the 40 ft bus, one over the rear axle, one over the standee line.
70		Exterior Panels, Finishes and Exterior Lighting Provide details	As on previous Proterra buses, all exterior panels are part of the composite-monocoque body. All exterior lighting is long-life LED.
71		Exterior Panels Provide details	Other than service access doors, there are no replaceable exterior panels on the composite laminate bus body.
72		Body Materials Provide details	The bus body is a molded composite laminate structure created using SCRIMP technology.

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Item	Specification Reference	Requirement	Provide details as applicable Submit 1 per line item or attach additional details (if required)
73	3.18	Roof-Mounted Equipment Provide details	Roof mounted equipment includes the HVAC system, the radiator/heat exchanger assembly, the pantograph charging rails (if chosen) and an ESS pack if chosen as an option.
74		Repair and Replacement - Side Body Panels Provide details	There are no side body panels on the composite laminate bus body/structure, other than service access doors which are easily replaceable using standard tools.
75		Rain Gutters	Standard, integral with bus roof.
76		License Plate Provisions per SAE J686	With LED license plate light
77		Splash Aprons Provide composition details	Splash aprons are fiber reinforced rubber designed to last the life of the bus, unless damaged.
78		Service Compartments and Access Doors	Comply with the requirements.
79		Access Door Latch/Locks Provide details	Exterior service compartment doors are fitted with square drive latches where appropriate.
80		Bumpers	Comply with the requirements.
81		Front Bumper per FMVSS 301	Romeo Rim "Help" bumpers
82		Rear Bumper per FMVSS 301	Romeo Rim "Help" bumpers
83		Finish and Color per ASTM's Provide details	The composite laminate bus body has an exterior gel-coat finish. Any exterior vinyl or paint applied per the customer design meets all applicable ASTM requirements.
84		Decals, Numbering and Signage per ADA requirements	Will comply with the procuring agency requirements
85		Passenger Information per ADA requirements	Meet all applicable standards. Will comply with any additional agency requirements.
86		Backup Light/Alarm per SAE Standard J593. Audible reverse operation warning system shall conform to SAE Recommended Practice J994 Type C or D Provide details	Comply with the requirements.
87		Doorway Lighting per ADA requirements	Comply with the requirements, lighting all LED
88		Turn Signals in accordance with federal regulations	Comply with the requirements, lighting all LED
89		Headlights designed for ease of replacement	Comply with the requirements, lighting all LED
90		Brake Lights per FMVSS	Comply with the requirements, lighting all LED
91		Service Area Lighting (Interior and Exterior) Provide details on type/manufacturer	Switched exterior service area (LED) lighting is standard for the drive unit compartment at the rear of the bus; switched interior service area lighting (LED) is standard for the front and rear doors actuators with a timed cut-off.
92		Interior Panels and Finishes per FMVSS 302 for each section/sub-section	Kydex, graffiti resistant, non-drumming



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Item	Specification Reference	Requirement	Provide details as applicable Submit 1 per line item or attach additional details (if required)
93	3.19	Interior Panels Provide details	Kydex, graffiti resistant, non-drumming
94		Driver Area Barrier Provide details	Proterra provides a matte-finish, no-reflecting drivers barrier aft of the driver's station, and has option available for additional protection in the form of a door/driver's shield with upper glazing.
95		Modesty Panels Provide details	Kydex, graffiti resistant, non-drumming
96		Fasteners	Corrosion resistant
97		Insulation	Insulation on the bus interior, where applied meets the requirements of FMVSS 302.
98		Floor Covering Provide details	Comply with purchasing agency requirements. Altro or GerFlor.
99		Interior Lighting	LED
100		Driver's area illuminated to a level of 5-to-10 ft-candles	Comply with the requirements for lighting levels
101		Seating Areas provide $\geq 15$ ft-candle illumination on 1 sq ft plane angle of $45^\circ$ from horizontal, centered 33 in above floor and 24 in in front of seat back at each seat position. (Allowable average light level for the rear bench seats $\geq 7$ ft-candles)	Comply with the requirements for lighting levels
102		Vestibules/Doors - Floor surface - Aisles $\geq 10$ ft-candles - Vestibule area $\geq 4$ ft-candles	Comply with the requirements for lighting levels
103		Step Lighting for the intermediate steps between lower and upper floor levels at least 4 ft-candles and illuminated in all drive/run positions	Comply with the requirements for lighting levels
104		Ramp Lighting	Meets requirements per ADA.
105		Turntable Lighting (Articulated Coach) Can turntable lighting be reduced to 7 ft-candles	Proterra does not offer an articulated bus
106		Farebox Lighting	LED
107		Fare Collection System doesn't restrict the driver's field of view per SAE Recommended Practice J1050.	Comply with the requirements as noted including those in SAE J1050.
108		Interior Access Panels and Doors	Interior access panels/doors are hinged or removable as appropriate. If hinged, supported when opened.
109		Passenger Accommodations	Comply with the purchasing agencies requirements.

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Item	Specification Reference	Requirement	Provide details as applicable Submit 1 per line item or attach additional details (if required)
110	3.20	Passenger Seating - Arrangements and Seat Style  Provide details on: - # of Seats - Make - Model/Part # - Upholstery or Type Seating	The standard passenger seating arrangement in the bus is such that seating capacity is maximized. Passenger seats are arranged in a transverse, forward-facing configuration, except at the wheel housings where aisle-facing seats may be arranged as appropriate with due regard for passenger access and comfort. Other areas where aisle-facing seats may be provided are at wheelchair securement areas and platforms. Proterra's standard seating for the 40' Catalyst Coach vehicle is a 38-passenger, USSC Gemini seats. Optional Coach-style seating arrangements are available. In the standard configuration, the seats are equipped with upholstered vandal resistant inserts throughout the bus. Options are available.
111		Turntable Seating (Articulated Coach)	Proterra does not manufacture an articulated bus.
112		Hip-to-Knee Room	
113		- Measurement	Minimum 27 inches
114		Foot Room $\geq 14$ in (behind wheel housings/modesting panels may be less)	Minimum 14 inches
115		Aisles $\geq 20$ in wide at seated passenger hip height. Seat backs shaped to increase dimension $\geq 24$ in at 32 in above floor  Provide width dimensions at appropriate locations per layout drawing	The aisle between the seats is no less than 20 in. wide at seated passenger hip height. Seat backs are shaped to increase this dimension to no less than 24 in. at 32 in. above the floor (standing passenger hip height).
116		Passenger Assists Assists Cross-sectional diameter $1\frac{1}{4}$ - $1\frac{1}{2}$ in. or equivalent gripping surface with corner radius $\geq \frac{1}{4}$ in.	Comply with the requirements
117		Front Doorway fitted with ADA-compliant assists	Comply with the requirements
118		Vestibule assist $\geq 36$ in above the floor	Comply with the requirements
119		Rear Doorway fitted with appropriately designed assists per section requirement	Comply with the requirements
120		Overhead assists support $\geq 150$ lbs on any 12 in length	Comply with the requirements
121		Passenger Doors per ADA requirements	Comply with the requirements
122		Front Door per ADA requirements and be forward of the front wheels under direct observation of the driver	Comply with the requirements



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<b>Item</b>	<b>Specification Reference</b>	<b>Requirement</b>	<b>Provide details as applicable Submit 1 per line item or attach additional details (if required)</b>
123		Rear Door(s) per ADA requirements and be curbside with centerline located rearward of the point midway between the front door centerline and the rearmost seat back	Comply with the requirements

## **Attachment E**

### Warranty Requirements



**Warranty Requirements****1. Basic Provisions****1.1. Warranty Requirements****1.1.1. Contractor Requirements (M)**

Warranties in this document are in addition to any statutory remedies or warranties imposed on the Contractor. Consistent with this requirement, the Contractor warrants and guarantees to the original Agency each complete bus and specific subsystems and components as follows. Performance requirements based on design criteria shall not be deemed a warranty item.

Warranties in this Contract are specifically agreed to and in addition to any remedies or warranties imposed on the Contractor by statute or otherwise by California law. It is understood that compliance within the warranty provisions, and the acceptance of the bus manufactured and assembled to these specifications does not waive any warranty either expressed or implied in Sections 2312 to 2315, inclusive, of the Commercial Code of the state of California, or any liability of the contractor as determined by any decision in a court of the State of California.

The Contractor will be responsible for all warranty-covered repair work on each complete bus, specific subsystems, components and spare parts. The Contractor shall insure in its procurement arrangements that the warranty requirements of this Contract are enforceable through and against the Contractor's suppliers, Vendors, material men and subcontractors. Any inconsistency or difference between the warranties extended to the Agency by the Contractor and those extended to the Contractor by its suppliers, vendors, material men and subcontractors shall be at the risk and expense of the Contractor. Such inconsistency or difference will not excuse the Contractor's full compliance with its obligations under the Contract Documents.

Upon request of the Agency, the Contractor promptly shall provide to the Agency complete copies of all written warranties or guarantees and documentation of any other arrangement relating to such warranties or guarantees extended by the Contractor's suppliers, sub suppliers, vendors, and subcontractors covering parts, components, and systems utilized in the bus.

The Contractor shall ensure that such suppliers, sub suppliers, vendors, and subcontractors satisfactorily perform warranty related work.

All warrantable repairs will include 100% of parts and labor costs. "Defects" defined herein are patent or latent malfunctions or failure in manufacture or design of any component or subsystem that causes the vehicle to cease operating or to operate in a degraded mode. "Related defects" defined herein are damages inflicted on any component or subsystem as a direct result of a defect.

Except where longer periods of warranty are specified by the Contractor, the Contractor warrants all buses furnished under this Agreement, including all equipment and materials, and all labor performance, shall be in full accordance with the contract requirements, and shall be fit for their intended purpose, and shall be free in all material respects of all Defects in the design, materials, and workmanship for the time periods and mileage set forth below. In addition, the Contractor expressly warrants each complete bus, individual part or system set forth herein. All warranties hereunder are deemed and acknowledged to explicitly extend to the future performance of the component or item warranted. The warranty shall apply regardless of whether the equipment, materials or labor were furnished or performed by the Contractor or by any of its subcontractors or suppliers of any tier.

**1.1.2. Complete Bus (M)**

The complete bus, propulsion system, components, major subsystems and body and chassis structure are warranted to be free from Defects and Related Defects for two (2) years or 100,000 miles, whichever comes first, beginning on the date of revenue service but not longer than fifteen (15) days after acceptance under "Inspection, Testing and Acceptance." The warranty is based on regular operation of the bus under the operating conditions prevailing in the Agency's locale.

**1.1.3. Body and Chassis Structure (M)**

The body and body structure are warranted to be free from defects, related defects, and to maintain structural integrity for three (3) years or 150,000 miles, whichever comes first. The body and body structure includes the components that are mechanically fastened or adhesively bonded or glued as part of the structure.

The chassis structure is warranted against corrosion failure and/or fatigue failure sufficient to cause a Class 1 failure for a period of twelve years or 500,000 miles, whichever comes first. The chassis structure includes all components that are welded together to form the main frame (skeleton) and body construction. Body structure is a 3-year warranty and the chassis structure is 12 years. These are the industry standard warranties.

**1.1.4. Propulsion System (M)**

Contractor warrants propulsion system components, specifically the traction motor, transmission, and drive and non-drive axles to be free from Defects, Fleet Defects and Related Defects for three (3) years or 100,000 miles whichever occurs first. An Extended Warranty to a maximum of five (5) years or 300,000 miles, whichever comes first may be purchased at an additional cost.

**1.1.5. Energy Storage System (M)**

The energy storage system and control system shall be warranted to be free from Defects and Related Defects and to operate without degradation of more than 20% of its original storage capacity for six (6) years or 250,000 miles whichever comes first. All warranty replacements shall be with the latest technology at the time of replacement.

**1.1.5.1 Extended Warranty (NMS)**

An extended warranty may be offered by the bus manufacturer.

**1.1.6. Major Subsystems (M)**

Contractor warrants major subsystems, to be free from Defects, Fleet Defects, and Related Defects as listed below.

<b>Subsystem</b>	<b>Year</b>	<b>Mileage</b>
Brake system	2	100,000
Destination signs	3	150,000
Heating, Ventilating, and Air Conditioning system	2	Unlimited Miles
Door systems	1	Unlimited Miles
Air compressor and dryer	2	100,000
Wheelchair ramp system	2	Unlimited Miles
Passenger Seating (excluding fabric)	2	100,000
AC to DC converter	2	100,000
Multiplex system	2	Unlimited Miles
Power Steering	2	100,000



**1.1.7. Serial Numbers (M)**

Upon delivery of each bus, the Contractor shall provide a complete electronic list of serialized units installed on each bus to facilitate warranty tracking. The list shall include, but is not limited to the following:

- traction motor
- A/C compressor and condenser/evaporator unit
- AC to DC Converter
- Energy Storage System Modules
- drive axle
- power steering unit
- fuel cylinders (if applicable)
- air compressor
- wheelchair ramp (if applicable)

The Contractor shall provide updated serial numbers resulting from warranty campaigns. The format of the list shall be approved by the Agency prior to delivery of the first production bus.

**1.1.8. Extension of Warranty (M)**

If, during the warranty period, repairs or modifications on any bus are made necessary by defective design, materials or workmanship but are not completed due to lack of material or inability to provide the proper repair for thirty (30) calendar days, then the applicable warranty period shall be extended by the number of days equal to the delay period.

**1.1.9. Voiding of Warranty (M)**

The warranty shall not apply to the failure of any part or component of the bus that directly results from misuse, negligence, accident or repairs not conducted in accordance with the Contractor-provided maintenance manuals and with workmanship performed by adequately trained personnel in accordance with recognized standards of the industry. The warranty also shall be void if the Agency fails to conduct normal inspections and scheduled preventive maintenance procedures as recommended in the Contractor's maintenance manuals and if that omission caused the part or component failure. The Agency shall maintain documentation, auditable by the Contractor, verifying service activities in conformance with the Contractor's maintenance manuals. However, Contractor must reasonably demonstrate by adequate proof that the Agency did not make repairs in accordance with the Contractor's then current maintenance manuals, which have been supplied to the Agency by Contractor, or the workmanship was not in accordance with recognized standards of the industry. If not so reasonably demonstrated, such a failure shall not be an Agency Caused Defect.

**1.1.10. Exceptions and Additions to Warranty (M)**

The warranty shall not apply to the following items:

- scheduled maintenance items
- normal wear-out items
- items furnished by the Agency

Should the Agency require the use of a specific product and has rejected the Contractor's request for an alternate product, then the standard Supplier

warranty for that product shall be the only warranty provided to the Agency. This product will not be eligible under "Fleet Defects," below.

The Contractor shall not be required to provide warranty information for any warranty that is less than or equal to the warranty periods listed.

**1.1.10.1. Pass-Through Warranty (M)**

Should the Contractor elect to not administer warranty claims on certain components and wish to transfer this responsibility to the sub-suppliers, or to others, the Contractor shall request this waiver.

Contractor shall state in writing that the Agency's warranty reimbursements will not be impacted. The Contractor also shall state in writing any exceptions and reimbursement including all costs incurred in transport of vehicles and/or components. At any time during the warranty period, the Contractor may request approval from the Agency to assign its warranty obligations to others, but only on a case-by-case basis approved in writing by the Agency. Otherwise, the Contractor shall be solely responsible for the administration of the warranty as specified. Warranty administration by others does not eliminate the warranty liability and responsibility of the Contractor.

**1.1.10.2. Superior Warranty (M)**

The Contractor shall pass on to the Agency any warranty offered by a component Supplier that is superior to that required herein. The Contractor shall provide a list to the Agency noting the conditions and limitations of the Superior Warranty not later than the start of production. The Superior Warranty shall not be administered by the Contractor.

**1.2. Fleet Defects**

**1.2.1. Occurrence and Remedy (M)**

A Fleet Defect is defined as cumulative failures of the same components in the same or similar application where such items are covered by warranty. The definition of Fleet Defect shall apply as follows:

<b>Fleet Size</b>	<b>Units Affected</b>
12 or More	25%

A Fleet Defect shall apply only to the base warranty period in sections entitled "Complete Bus," "Propulsion System" and "Major Subsystems." When a Fleet Defect is declared, the remaining warranty on that item/component stops. The warranty period does not restart until the Fleet Defect is corrected.

For the purpose of Fleet Defects, each option order shall be treated as a separate bus fleet. In addition, should there be a change in a major component within either the base order or an option order, the buses containing the new major component shall become a separate bus fleet for the purposes of Fleet Defects.

The Contractor shall correct a Fleet Defect under the warranty provisions defined in "Repair Procedures." After correcting the Defect, the Agency and the Contractor shall mutually agree to and the Contractor shall promptly undertake and complete a work program reasonably designed to prevent the occurrence of the same Defect in all other buses and spare parts purchased under this Contract. Where the specific Defect can be solely attributed to particular identifiable part(s), the work program shall include redesign and/or replacement of only the defectively designed and/or manufactured part(s). In all other cases, the work program shall include inspection and/or correction of all the buses in the fleet via a mutually agreed-to arrangement. The Contractor shall update, as necessary, technical support information (parts, service and operator's manuals) due to changes resulting from warranty repairs. The Agency may immediately declare a Defect in design resulting in a safety hazard to be a Fleet Defect. The Contractor shall be responsible to furnish, install and replace all defective units.

**1.2.2. Notice of Fleet Defects (M)**

The Agency shall promptly notify the Contractor whenever it determines that a Fleet Defect has occurred. The Contractor shall address and correct such Fleet Defect in accordance with these requirements.

**1.2.3. Notice and Work Program (M)**

Within seven (7) Days after notice of a Fleet Defect, the Contractor shall submit to the Agency, a written work program and schedule for correcting the Defect. The work program shall be reasonably designed to prevent the occurrence of the same Defect in all other buses and parts purchased under the Option Agreement, and shall include, as applicable, redesign and/or replacement of defectively designed or manufactured parts, and inspection and repair of all buses purchased under the Option Agreement. The work program and schedule shall be subject to approval by the Agency. If the Agency determines the work program and schedule as submitted is unacceptable, the Contractor shall promptly submit a revised work program and schedule to address the Agency's concerns with the initial submittal. The Contractor shall commence work under the work program according to the schedule agreed on by the parties.

**1.2.4. Exceptions to Fleet Defect Provisions (M)**

The Fleet Defect provisions do not apply to the Agency's supplied items such as radios, fare collection equipment and communication systems or normal wear and tear items.

**1.2.5. Applicability (M)**

The Contractor shall make the repairs necessary to correct Fleet Defects on all the buses at its sole expense.

The Fleet Defect requirements apply during the warranty periods specified for Sections 1.1.2 Complete Bus, 1.1.4 Propulsion System, and 1.1.6 Major Subsystems in this Exhibit.

**1.3. Multiple Failure (M)**

If a component provided fails to perform in accordance with technical specifications and functional descriptions contained or referenced in the awarded contract agreement and



is subject to warranty response three (3) or more times during any ninety (90) day period, the Contractor will, upon the authorized purchaser's request, replace the component at no cost. The replacement component will be replaced/delivered no later than fifteen (15) working days after the authorized purchaser's request is received by the Contractor. Replacement goods cannot be used, refurbished or recycled unless authorized by the authorized purchaser.

## **2. Repair Procedures**

### **2.1. Repair Performance (M)**

The Contractor is responsible for all warranty-covered repair Work. To the extent practicable, the Agency will allow the Contractor or its designated representative to perform such Work. At its discretion, the Agency may perform such Work if it determines it needs to do so based on transit service or other requirements. Such Work shall be reimbursed by the Contractor per section 2.3.4. Agency Work on the Propulsion System and HVAC System without written permission of the OEM may void the remaining warranty.

#### **2.1.1. Scope of Warranty Repairs (M)**

When warranty repairs are required, the Agency and the Contractor's representative shall attempt to agree within five (5) Days after notification on the most appropriate course for the repairs and the exact scope of the repairs to be performed under the warranty. If no agreement is obtained within the five-day period, the Agency reserves the right to commence and undertake the repairs in accordance with the provisions of this Exhibit.

#### **2.1.2. Timing of Repairs (M)**

The Contractor or its designated representative shall begin work on warranty-covered repairs to correct Defects, Fleet Defects or Related Defects, within ten (10) Days after receiving Notice of Defect from Agency, unless the parties otherwise agree to an alternative schedule. Agency shall make the bus available to complete repairs timely with the Contractor repair schedule.

#### **2.1.3. Contractor Obligations (M)**

The Contractor shall provide at its own expense all spare parts and tools, and labor, unless otherwise agreed upon by the Agency and Contractor, required to complete repairs and correct the Defects, Fleet Defects or Related Defects covered under warranty. The Contractor shall provide a service technician on-site at the Agency to complete repairs and correct the Defect, Fleet Defects or Related Defects. The Agency will make facilities available to the Contractor to complete the repairs. Notwithstanding the availability of the Agency's facilities, the Contractor may, on occasion, be required to remove the bus from the Agency's property while repairs are being affected. If the bus is removed from the Agency's property, repair procedures must be diligently pursued by the Contractor.

### **2.2. Repairs by the Contractor (M)**

If the Agency detects a Defect within the warranty periods defined in this section, it shall, within thirty (30) days, notify the Contractor's designated representative. The Contractor or its designated representative shall, if requested, begin Work on warranty-covered repairs within five (5) calendar days after receiving notification of a Defect from

the Agency. The Agency shall make the bus available to complete repairs timely with the Contractor's repair schedule.

The Contractor shall provide at its own expense all spare parts, tools and labor required to complete repairs. At the Agency's option, the Contractor may be required to remove the bus from the Agency's property while repairs are being effected. If the bus is removed from the Agency's property, then repair procedures must be diligently pursued by the Contractor's representative.

### **2.3. Repairs by the Agency (M)**

#### **2.3.1. Parts Used (M)**

If the Agency performs the warranty-covered repairs, then it shall correct or repair the Defect and any Related Defects utilizing parts supplied by the Contractor specifically for this repair. At its discretion, the Agency may use Contractor-specified parts available from its own stock if deemed in its best interests. Remanufactured parts shall not be allowed. The parts shall be shipped prepaid to the Agency from any source selected by the Contractor within fourteen (14) days of receipt of the request for said parts and shall not be subject to an Agency handling charge.

#### **2.3.2. Defective Component Return (M)**

The Contractor may request that parts covered by the warranty be returned to the manufacturing plant. The freight costs for this action shall be paid by the Contractor. Materials should be returned in accordance with the procedures outlined in "Warranty Processing Procedures."

#### **2.3.3. Failure Analysis (M)**

The Contractor shall, upon specific request of the Agency, provide a failure analysis of Fleet Defect or safety-related parts, or major components, removed from buses under the terms of the warranty that could affect fleet operation. Such reports shall be delivered within forty-five (45) days of the receipt of failed parts.

#### **2.3.4. Reimbursement of Labor and Other Related Costs (M)**

The Agency shall be reimbursed by the Contractor for labor. The amount shall be determined by the Agency for a qualified mechanic at a straight time wage rate per hour agreed to in writing upon bus acceptance and using the appropriate hours listed in the Contractor's standard repair time manual. The cost of towing the bus, if such action was necessary and if the bus was in the normal service area, shall also be reimbursed during the Complete Bus warranty period. These wage and fringe benefit rates shall not exceed the rates in effect in the Agency's service garage at the time the defect correction is made and shall be fixed for a period of one (1) year and any annual adjustment shall not exceed the Producer Price Index for that year.

#### **2.3.5. Reimbursement for Parts (M)**

The Agency shall be reimbursed by the Contractor for defective parts and for parts that must be replaced to correct the Defect. The reimbursement shall be at the current price at the time of repair and shall include taxes where

applicable, plus fifteen (15) percent handling costs. Handling costs shall not be paid if parts are supplied by the Contractor and shipped to the Agency.

**2.3.6. Reimbursement Requirements (M)**

The Contractor shall respond to the warranty claim with an accept/reject decision including necessary failure analysis no later than thirty (30) days after the Agency submits the claim and defective part(s), when requested. Reimbursement for all accepted claims shall occur no later than thirty (30) days from the date of acceptance of a valid claim. The Agency may dispute rejected claims or claims for which the Contractor did not reimburse the full amount. The parties agree to review disputed warranty claims during the following quarter to reach an equitable decision to permit the disputed claim to be resolved and closed. The parties also agree to review all claims at least once per quarter throughout the entire warranty period to ensure that open claims are being tracked and properly dispositioned.

**2.4. Warranty After Repairs**

**2.4.1. Repair or Rebuild (M)**

If any component, system or part is repaired or rebuilt by the Contractor, the component, system or part shall have the unexpired remainder of the original warranty period. The warranty period shall stop during the warranty claim and repair or rebuild processes and shall re-commence on the date the repaired or rebuilt component, system or part is installed or thirty (30) days after delivery, whichever first occurs.

**2.4.2. Replacement (M)**

If any component, system or part is replaced by the Contractor, the component, system or part shall have either the unexpired remainder of the original warranty period or the OEM's standard warranty, whichever is greater. The warranty period shall stop during warranty claim and replacement processes and shall re-commence on the date the replaced component is accepted or thirty (30) days after delivery, whichever first occurs.

**3. Warranty Processing Procedures (M)**

The following list represents requirements by the Contractor to the Agency for processing warranty claims. One failure per bus per claim is allowed.

- bus number and VIN
- total vehicle life mileage at time of repair
- date of failure/repair
- acceptance/in-service date
- Contractor part number and description
- component serial number
- description of failure
- all costs associated with each failure/repair (invoices may be required for third-party costs):
  - towing
  - road calls
  - labor



- materials
- parts
- handling
- trouble shooting time

### **3.1. Disputes (M)**

Any disputes concerning these warranty provisions (including whether specific repairs are covered by warranty and the reimbursement of repairs undertaken by the Agency), are subject to the dispute resolution procedures in Exhibit 8.22, General Provisions (GSPD-401 Non-IT Commodities) revised 6/08/2010; provided that the Contractor shall comply with its warranty repair obligations, in accordance with the Agency's direction, notwithstanding the pendency of any dispute.

### **3.2. Forms (M)**

The Agency's forms will be accepted by the Contractor if all of the above information is included. Electronic submittal may be used if available between the Contractor and the Agency.

### **3.3. Return of Parts (M)**

When returning defective parts to the Contractor, the Agency shall tag each part with the following:

- bus number and VIN
- claim number
- part number
- serial number (if available)

### **3.4. Timeframe (M)**

Each claim must be submitted no more than thirty (30) days from the date of failure and/or repair, whichever is later. All defective parts must be returned to the Contractor, when requested, no more than forty-five (45) days from the date of repair.

### **3.5. Detection of Defects (M)**

If the Agency detects a defect within a defined warranty period, it shall within thirty (30) days provide a Notice of Defect to the Contractor's representative. The Contractor shall provide contact information to receive Notices of Defect on Exhibit 8.3, Narrative Response and Commitment.

Within five (5) days after receipt of a Notice of Defect, the Contractor's representative shall either agree that the defect is in fact covered by warranty, or promptly arrange to inspect the bus or component at the Agency's property or at the Contractor's plant. At that time, the Agency and the Contractor shall attempt to resolve the status of warranty coverage on the bus or component. Work shall commence to correct the defect within ten (10) days after receipt of notification, unless the parties otherwise agree to an alternative schedule, and shall be conducted in accordance with the provisions of this Exhibit.

**4. Reimbursements****4.1. Transportation (M)**

The Contractor will reimburse the Agency for the actual cost of transporting a bus if such action was necessary and if the bus was in the normal service area. Should the Contractor request the Agency to transport vehicles to a vendor/subcontractor for repairs, the Contractor shall reimburse the Agency for all transportation expenses incurred by the Agency. The Contractor shall assume all liability for damage from the time the vehicle is released from the Agency's property until it is returned to the Agency's property.

**4.2. Agency Repairs (M)**

Contractor shall reimburse the Agency for any repairs commenced or undertaken by the Agency (or its service contractor) within thirty days (30) days of receipt of a warranty claim or return of the returned part or component for review by the Contractor, as applicable. The Agency shall submit to the Contractor a warranty claim form for any repairs commenced or undertaken for reimbursement for the cost of repairs, including applicable and documented labor costs and the replacement of parts or components.

## **Attachment E1**

### Summary of Standard Warranties



**SUMMARY OF STANDARD WARRANTIES**

Warranty	Proterra's Warranty	
	Years	Miles
Complete Bus	2	100,000
Body Structure	3	150,000
Chassis Structure	12	500,000
Propulsion System	3	100,000
Battery Pack (As Applicable)	6	250,000
Fuel Cell Stack (As Applicable)	N/A	N/A
Drive Motor	3	100,000
Air Conditioner	2	Unlimited
Lift/Ramp	2	Unlimited
Flooring	3	150,000
Brake System	2	100,000
Destination Signs	3	150,000
Door Systems	1	Unlimited
Air Compressor and Dryer	2	100,000
Passenger Seating	2	100,000
AC to DC Converter	2	100,000
Multiplex System	2	Unlimited
Power Steering	2	100,000

## **Attachment F**

### Training Requirements

**TRAINING REQUIREMENTS****TRAINING**

The following material for each course shall be provided to the Ordering Agency for review and approval prior to delivery of the first bus.

- Course Overview
- Instructor's Guide
- Video Presentations
- PowerPoint or other Multimedia Materials

**Training Topics and Classes**

The following topics are minimum requirements. Quantity of classes and training hours per class are indicated below. Adjustments to the topics and/or hours may be made upon approval of the Ordering Agency. All training sessions will be provided on or near Ordering Agency property. Instructor travel and lodging expenses shall not be billed to the Ordering Agency.

**Operator Training (56 hours)**

- Operator drive training, four (4) sessions, four (4) hours each
- Overall vehicle/system orientation, twenty (20) sessions, two (2) hours each

**BEB Technician Training (304 hours)**

- Preventive maintenance, four (4) sessions, eight (8) hours each
- Electrical/Electronic, six (6) sessions, eight (8) hours each
- Multiplex, four (4) sessions, three (3) x eight (8) days per session
- HVAC, four (4) sessions, four (4) hours each
- Brakes, four (4) sessions, four (4) hours each
- Energy Storage System, lithium-ion battery and energy management hardware & software, six (6) sessions, eight (8) hours each
- Electric Drive/Transmission, six (6) sessions, eight (8) hours each

**FCEB Technician Training (128 hours)**

- H2 System- Fuel Cell Engine, six (6) sessions, eight (8) hours each (if applicable)
- H2 Fuel System, four (4) sessions, eight (8) hours each (if applicable)
- H2 Detection and Fire Suppression Systems, six (6) sessions, four (4) hours each (if applicable)
- H2 Cooling System package, six (6) sessions, four (4) hours each (if applicable)

The Ordering Agency reserves the right to reallocate these hours to any bus related topic(s) as needed. Training sessions will be provided within thirty (30) days of the Ordering Agency request.

**DOCUMENTATION**

One (1) each of the following manuals shall be provided to the Agency, within thirty (30) days following the delivery of the first production vehicle. Additional manuals may be ordered by the Ordering Agency. These manuals will specifically reference the vehicles produced. All manuals shall be provided in PDF.

- Maintenance Packages Manual
- Preventative Maintenance and Procedure Manual
- Parts Manual



- Operator's Manual

The Contractor shall keep Maintenance Packages Manuals available for a period of three (3) years after the date of acceptance of the buses. The Contractor shall also exert its best efforts to keep Maintenance Package Manuals, and Operator Manuals up-to-date a period of six (6) years and Parts Manuals for up to twelve (12) years. The supplied Maintenance Package, Parts, and Operator's Manuals shall incorporate all equipment ordered on the buses covered by this contract. The Manuals should be supplied as indicated in sets consisting of a hardcopy, CDROM or security-protected flash-drives and any other media specified below.

**Maintenance Packages Manual**

The Maintenance Packages Manual is to be used by maintenance mechanics as a repair guide. This manual will describe the operation of all vehicle systems; provide trouble shooting assistance, step by step instructions for component removal, rebuilding and replacement, pictorial illustrations of disassembled components and schematics for the electrical, hydraulic and air system. A supplement to this manual shall be provided to identify required skill level and labor hours required to perform routine maintenance activities such as inspection, lubrication, brake reline, and component removal and replacement. All manuals shall be provided in PDF format. Additionally, the Contractor shall provide two (2) flash drives with the necessary diagnostic hardware and software programs for the various bus components/systems.

**Preventative Maintenance and Procedure Manual**

The Preventive Maintenance and Procedure Manual will address, at a minimum, the following detailed all-inclusive routines:

- Change interval for all fluids and filters.
- Lubrication points identified by location, interval and lubricant type required.
- Items requiring periodic inspection and adjustment.
- Detailed preventative maintenance inspection requirements, including Pass/Fail criteria, at a minimum, for the following systems and/or components shall be provided:
  - Daily Pre-Test
  - Air System
  - HVAC
  - Fire Suppression
  - Energy Storage System: lithium-ion batteries and energy management system
  - Power Train: Fuel-Cell, Drive-Train, Transmission, Differential (as applicable)
  - Hydrogen storage system and related components (if applicable)
  - Fuel System (if applicable)
  - Electrical System
  - Driver's area and operator's controls
  - Brake System
  - Front Axle
  - Rear Axle
  - Bus' interior
  - Bus' exterior
  - Entrance and Exit Doors
  - Wheelchair Ramp (if applicable)
  - Others as required or mandated by code.

Where gauge and instrument readings are required, the dimensions and tolerances will be specified. Fluid analysis contaminant and degradation criteria will be specified for fuel-cell engine (if applicable), transmission (e-drive or applicable), and differential. This information may be used to determine fluid change intervals and/or identify component defects. The vehicle's information typically represented by drawings and schematics shall be provided to the Ordering Agency via AUTOCAD media or PDF.

**Parts Manual**

The Parts Manual shall contain each part used during the assembly of the vehicle on a production line ticket and also each part will be referenced in a manual by specific vehicle sub-system. The Parts Manual will be one produced specifically for the vehicle ordered. All manuals shall be provided in PDF.

The Parts Manual will contain components and component parts indexed by part nomenclature, and bus manufacturer's part number.

The Parts Manual shall include:

- Pictorial views as needed for illustration
- Components identified as an assembly and by individual breakdowns
- Fuel-cell and other components as applicable required for Overhaul Parts Manual
- Drive-train (or applicable) Transmission Overhaul Parts Manual
- Differential Overhaul Parts Manual

The Parts Manual may also include:

- Production Bill of Materials, including all purchased components thoroughly described and listed by brand, model, and component manufacturer's part number, identifying the names of manufacturer.
- A cross reference, with the Contractor's part number cross-referenced to the component's original equipment manufacturer's name and part number

**Operators' Manual**

The Operator's Manual shall incorporate all material deemed by the Contractor to be necessary to properly familiarize the Ordering Agency with how to operate the bus.

**Bulletins**

Each and every time a change or modification is made to the vehicles described within this specification, the manufacturer will announce and initiate this action by issuing a document (Bulletin). The Bulletin shall be mailed and/or emailed to the Ordering Agency. This Bulletin service will start after the Ordering Agency's receipt of the first vehicle and remain active throughout the service life of the fleet. All Bulletins shall be provided in PDF. The Contractor, for the service life of the bus, will be responsible for providing the Ordering Agency Parts Bulletins as changes or updates are made to the original parts information.

Each Bulletin will contain at least the following components:

- Description of actual change or modification
- Date of implementation
- Replacement pages for service and/or parts manuals as applicable
- Method of implementation

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**Attachment G**

**FTA Clauses & Certifications**



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**FEDERAL TRANSIT ADMINISTRATION (FTA) CLAUSES**

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1.14 Rolling Stock Special Requirements .....	8
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**FEDERAL TRANSIT ADMINISTRATION CLAUSES**

This document consists of Federal Transit Administration (FTA) clauses. Should a term within this document conflict with a term in another part of the entire document, reference the Order of Precedence term for direction.

**1 FTA CLAUSES****1.1 No Obligation by The Federal Government.**

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- a. The Purchaser and Contractor acknowledge and agree that, notwithstanding any concurrence by the Federal Government in or approval of the solicitation or award of the underlying contract, absent the express written consent by the Federal Government, the Federal Government is not a party to this contract and shall not be subject to any obligations or liabilities to the Purchaser, Contractor, or any other party (whether or not a party to that contract) pertaining to any matter resulting from the underlying contract.
- b. The Contractor agrees to include the above clause in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clause shall not be modified, except to identify the subcontractor who will be subject to its provisions.

**1.2 Program Fraud and False or Fraudulent Statements or Related Acts.**

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- a. The Contractor acknowledges that the provisions of the Program Fraud Civil Remedies Act of 1986, as amended, 31 U.S.C. § 3801 et seq. and U.S. DOT regulations, "Program Fraud Civil Remedies," 49 C.F.R. Part 31, apply to its actions pertaining to this Project. Upon execution of the underlying contract, the Contractor certifies or affirms the truthfulness and accuracy of any statement it has made, it makes, it may make, or causes to be made, pertaining to the underlying contract or the FTA assisted project for which this contract work is being performed. In addition to other penalties that may be applicable, the Contractor further acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification, the Federal Government reserves the right to impose the penalties of the Program Fraud Civil Remedies Act of 1986 on the Contractor to the extent the Federal Government deems appropriate.
- b. The Contractor also acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification to the Federal Government under a contract connected with a project that is financed in whole or in part with Federal assistance originally awarded by FTA under the authority of 49 U.S.C. § 5307, the Government reserves the right to impose the penalties of 18 U.S.C. § 1001 and 49 U.S.C. § 5307(n)(1) on the Contractor, to the extent the Federal Government deems appropriate.
- c. The Contractor agrees to include the above two clauses in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clauses shall not be modified, except to identify the subcontractor who will be subject to the provisions.

**1.3 Access to Records**

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The following access to records requirements apply to this Contract:



The Contractor agrees to maintain all books, records, accounts and reports required under this Contract for a period of not less than three years after the date of termination or expiration of this Contract, except in the event of litigation or settlement of claims arising from the performance of this Contract, in which case Contractor agrees to maintain same until the Ordering Agency, the FTA Administrator, the Comptroller General or any of their duly authorized representatives have disposed of all such litigation, appeals, claims or exceptions related thereto. Reference 49 CFR 18.39(i)(11).

The following access to records requirements apply to this Contract:

Local Governments — In accordance with 49 CFR 18.36(i), the Contractor agrees to provide the Ordering Agency, the FTA Administrator, the Comptroller General of the United States or any of their authorized representatives access to any books, documents, papers and records of the Contractor that are directly pertinent to this Contract for the purposes of making audits, examinations, excerpts and transcriptions. Contractor also agrees, pursuant to 49 CFR 633.17 to provide the FTA Administrator or his authorized representatives including any PMO Contractor access to Contractor's records and construction sites pertaining to a major capital project, defined at 49 USC 5302(a)1, which is receiving federal financial assistance through the programs described at 49 USC 5307, 5309 or 5311.

State Governments — In accordance with 49 CFR 633.17, the Contractor agrees to provide the Department of General Services, Procurement Division (DGS-PD), Ordering Agency, the FTA Administrator or his authorized representatives, including any PMO Contractor, access to the Contractor's records and construction sites pertaining to a major capital project, defined at 49 USC 5302(a)1, which is receiving federal financial assistance through the programs described at 49 USC 5307, 5309 or 5311. By definition, a major capital project excludes contracts of less than the simplified acquisition threshold currently set at \$100,000.

The Contractor agrees to permit any of the foregoing parties to reproduce by any means whatsoever or to copy excerpts and transcriptions as reasonably needed.

#### 1.4 Federal Changes

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Contractor shall at all times comply with all applicable FTA regulations, policies, procedures and directives, including without limitation those listed directly or by reference in the Master Agreement between Purchaser and FTA, as they may be amended or promulgated from time to time during the term of this contract. Contractor's failure to so comply shall constitute a material breach of this contract.

#### 1.5 Termination

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- a. Termination for Convenience — The (Recipient) may terminate this contract, in whole or in part, at any time by written notice to the Contractor when it is in the Government's best interest. The Contractor shall be paid its costs, including contract close-out costs, and profit on work performed up to the time of termination. The Contractor shall promptly submit its termination claim to (Recipient) to be paid the Contractor. If the Contractor has any property in its possession belonging to the (Recipient), the Contractor will account for the same, and dispose of it in the manner the (Recipient) directs.



- b. Termination for Default — If the Contractor does not deliver supplies in accordance with the contract delivery schedule, or, if the contract is for services, the Contractor fails to perform in the manner called for in the contract, or if the Contractor fails to comply with any other provisions of the contract, the (Recipient) may terminate this contract for default. Termination shall be effected by serving a notice of termination on the contractor setting forth the manner in which the Contractor is in default. The contractor will only be paid the contract price for supplies delivered and accepted, or services performed in accordance with the manner of performance set forth in the contract.

If it is later determined by the (Recipient) that the Contractor had an excusable reason for not performing, such as a strike, fire, or flood, events which are not the fault of or are beyond the control of the Contractor, the (Recipient), after setting up a new delivery of performance schedule, may allow the Contractor to continue work, or treat the termination as a termination for convenience.

- c. Opportunity to Cure — The (Recipient) in its sole discretion may, in the case of a termination for breach or default, allow the Contractor (an appropriately short period of time) in which to cure the defect. In such case, the notice of termination will state the time period in which cure is permitted and other appropriate conditions. If Contractor fails to remedy to (Recipient)'s satisfaction the breach or default of any of the terms, covenants, or conditions of this Contract within (ten (10) days) after receipt by Contractor of written notice from (Recipient) setting forth the nature of said breach or default, (Recipient) shall have the right to terminate the Contract without any further obligation to Contractor. Any such termination for default shall not in any way operate to preclude (Recipient) from also pursuing all available remedies against Contractor and its sureties for said breach or default.
- d. Waiver of Remedies for any Breach — In the event that (Recipient) elects to waive its remedies for any breach by Contractor of any covenant, term or condition of this Contract, such waiver by (Recipient) shall not limit (Recipient)'s remedies for any succeeding breach of that or of any other term, covenant, or condition of this Contract.

## 1.6 Civil Rights

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The following requirements apply to the underlying contract:

- a. Nondiscrimination — In accordance with Title VI of the Civil Rights Act, as amended, 42 U.S.C. § 2000d, section 303 of the Age Discrimination Act of 1975, as amended, 42 U.S.C. § 6102, section 202 of the Americans with Disabilities Act of 1990, 42 U.S.C. § 12132, and Federal transit law at 49 U.S.C. § 5332, the Contractor agrees that it will not discriminate against any employee or applicant for employment because of race, color, creed, national origin, sex, age, or disability. In addition, the Contractor agrees to comply with applicable Federal implementing regulations and other implementing requirements FTA may issue.

- b. Equal Employment Opportunity — The following equal employment opportunity requirements apply to the underlying contract:
1. Race, Color, Creed, National Origin, Sex — In accordance with Title VII of the Civil Rights Act, as amended, 42 U.S.C. § 2000e, and Federal transit laws at 49 U.S.C. § 5332, the Contractor agrees to comply with all applicable equal employment opportunity requirements of U.S. Department of Labor (U.S. DOL) regulations, "Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor," 41 C.F.R. Parts 60 et seq., (which implement Executive Order No. 11246, "Equal Employment Opportunity," as amended by Executive Order No. 11375, "Amending Executive Order 11246 Relating to Equal Employment Opportunity," 42 U.S.C. § 2000e note), and with any applicable Federal statutes, executive orders, regulations, and Federal policies that may in the future affect construction activities undertaken in the course of the Project. The Contractor agrees to take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, color, creed, national origin, sex, or age. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.
  2. Age — In accordance with section 4 of the Age Discrimination in Employment Act of 1967, as amended, 29 U.S.C. §§ 623 and Federal transit law at 49 U.S.C. § 5332, the Contractor agrees to refrain from discrimination against present and prospective employees for reason of age. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.
  3. Disabilities — In accordance with section 102 of the Americans with Disabilities Act, as amended, 42 U.S.C. § 12112, the Contractor agrees that it will comply with the requirements of U.S. Equal Employment Opportunity Commission, "Regulations to Implement the Equal Employment Provisions of the Americans with Disabilities Act," 29 C.F.R. Part 1630, pertaining to employment of persons with disabilities. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.
- c. The Contractor also agrees to include these requirements in each subcontract financed in whole or in part with Federal assistance provided by FTA, modified only if necessary to identify the affected parties.

#### **1.7 Disadvantaged Business Enterprises (DBE)**

This Contract is subject to the requirements of Title 49, Code of Federal Regulations, Part 26, Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs.

The Contractor shall maintain compliance with "DBE Approval Certification" throughout the period of Contract performance.



***\*The CONTRACTOR, or SUBCONTRACTOR shall not discriminate on the basis of race, color, national origin, or sex in the performance of this contract. The CONTRACTOR or SUBCONTRACTOR shall carry out applicable requirement of 49 CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the CONTRACTOR or SUBCONTRACTOR to carry out these requirements is a material breach of this contract, which may result in the termination of the Standard Agreement between the STATE and the Awarding Agency, the termination of this contract by the Awarding Agency, or such other remedy the Awarding Agency deems appropriate, which may include, but is not limited to:***

- 1) Withholding monthly progress payments;***
- 2) Assessing sanctions;***
- 3) Liquidated damages; and/or***
- 4) Disqualifying the CONTRACTOR from future bidding as non-responsive.\****

#### **1.8 Incorporation of Federal Transit Administration Terms**

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The preceding provisions include, in part, certain Standard Terms and Conditions required by DOT, whether or not expressly set forth in the preceding contract provisions. All contractual provisions required by DOT, as set forth in FTA Circular 4220.1F, are hereby incorporated by reference. Anything to the contrary herein notwithstanding, all FTA mandated terms shall be deemed to control in the event of a conflict with other provisions contained in this Agreement. The Contractor shall not perform any act, fail to perform any act, or refuse to comply with any (name of grantee) requests which would cause (name of grantee) to be in violation of the FTA terms and conditions.

#### **1.9 Debarment and Suspension**

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This contract is a covered transaction for purposes of 49 CFR Part 29. As such, the contractor is required to verify that none of the contractor, its principals, as defined at 49 CFR 29.995, or affiliates, as defined at 49 CFR 29.905, are excluded or disqualified as defined at 49 CFR 29.940 and 29.945.

The contractor is required to comply with 49 CFR 29, Subpart C and must include the requirement to comply with 49 CFR 29, Subpart C in any lower tier covered transaction it enters into.

By signing and submitting its bid or proposal, the bidder or proposer certifies as follows:

The certification in this clause is a material representation of fact relied upon by DGS-PD. If it is later determined that the bidder or proposer knowingly rendered an erroneous certification, in addition to remedies available to DGS-PD, the Federal Government may pursue available remedies, including but not limited to suspension and/or debarment. The bidder or proposer agrees to comply with the requirements of 49 CFR 29, Subpart C while this offer is valid and throughout the period of any contract that may arise from this offer. The bidder or proposer further agrees to include a provision requiring such compliance in its lower tier covered transactions.

#### **1.10 Energy Conservation**

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The contractor agrees to comply with mandatory standards and policies relating to energy efficiency which are contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act.



**1.11 Clean Water**

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- a. The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Federal Water Pollution Control Act, as amended, 33 U.S.C. 1251 et seq. The Contractor agrees to report each violation to the Purchaser and understands and agrees that the Purchaser will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA Regional Office.
- b. The Contractor also agrees to include these requirements in each subcontract exceeding \$100,000 financed in whole or in part with Federal assistance provided by FTA.

**1.12 Clean Air**

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- a. The Contractor agrees to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act, as amended, 42 U.S.C. §§ 7401 et seq. The Contractor agrees to report each violation to the Purchaser and understands and agrees that the Purchaser will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA Regional Office.
- b. The Contractor also agrees to include these requirements in each subcontract exceeding \$100,000 financed in whole or in part with Federal assistance provided by FTA.

**1.13 Contract Work Hours and Safety Standards**

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- a. Overtime requirements — No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics shall require or permit any such laborer or mechanic in any workweek in which he or she is employed on such work to work in excess of forty hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of forty hours in such workweek.
- b. Violation; liability for unpaid wages; liquidated damages — In the event of any violation of the clause set forth in paragraph (a) of this section the contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic, including watchmen and guards, employed in violation of the clause set forth in paragraph (a) of this section, in the sum of \$10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of forty hours without payment of the overtime wages required by the clause set forth in paragraph (a) of this section.
- c. Withholding for unpaid wages and liquidated damages — The (write in the name of the grantee) shall upon its own action or upon written request of an authorized representative of the Department of Labor withhold or cause to be withheld, from any moneys payable on account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph (b) of this section.



- d. Subcontracts — The contractor or subcontractor shall insert in any subcontracts the clauses set forth in paragraphs (a) through (d) of this section and also a clause requiring the subcontractors to include these clauses in any lower tier subcontracts. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with the clauses set forth in paragraphs (a) through (d) of this section.

#### **1.14 Rolling Stock Special Requirements**

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The following Federal laws and regulations impose requirements that may affect rolling stock procurements:

- a. **Accessibility.** Rolling stock must comply with the accessibility requirements of DOT regulations, "Transportation Services for Individuals with Disabilities (ADA)," 49 CFR Part 37, and Joint ATBCB/DOT regulations, "Americans with Disabilities (ADA) Accessibility Specifications for Transportation Vehicles," 36 CFR Part 1192 and 49 CFR Part 38.
- b. **Transit Vehicle Manufacturer Compliance with DBE Requirements.** Before a transit vehicle manufacturer (TVM) may submit a bid or proposal to provide vehicles to be financed with FTA assistance, 49 CFR Section 26.49 requires the TVM to submit a certification that it has complied with FTA's DBE requirements.

#### **1.15 Buy America**

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The contractor agrees to comply with 49 U.S.C. 5323(j) and 49 C.F.R. Part 661, which provide that Federal funds may not be obligated unless steel, iron, and manufactured products used in FTA-funded projects are produced in the United States, unless a waiver has been granted by FTA or the product is subject to a general waiver. Separate requirements for rolling stock are set out at 49 U.S.C. 5323(j)(2)(C) and 49 C.F.R. 661.11. Rolling stock must be assembled in the United States and have a 70 percent domestic content.

A bidder or offeror must submit to the FTA recipient the appropriate Buy America certification (below) with all bids or offers on FTA-funded contracts, except those subject to a general waiver. Bids or offers that are not accompanied by a completed Buy America certification must be rejected as nonresponsive. This requirement does not apply to lower tier subcontractors.

#### **1.16 Fly America Requirements**

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The Contractor agrees to comply with 49 U.S.C. 40118 (the "Fly America" Act) in accordance with the General Services Administration's regulations at 41 CFR Part 301-10, which provide that recipients and subrecipients of Federal funds and their contractors are required to use U.S. Flag air carriers for U.S. Government-financed international air travel and transportation of their personal effects or property, to the extent such service is available, unless travel by foreign air carrier is a matter of necessity, as defined by the Fly America Act. The Contractor shall submit, if a foreign air carrier was used, an appropriate certification or memorandum adequately explaining why service by a U.S. flag air carrier was not available or why it was necessary to use a foreign air carrier and shall, in any event, provide a certificate of compliance with the Fly America requirements. The Contractor agrees to include the requirements of this section in all subcontracts that may involve international air transportation.

**1.17 Cargo Preference — Use of United States-Flag Vessels**

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The contractor agrees to:

- a. use privately owned United States-Flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved, whenever shipping any equipment, material, or commodities pursuant to the underlying contract to the extent such vessels are available at fair and reasonable rates for United States-Flag commercial vessels;
- b. furnish within 20 working days following the date of loading for shipments originating within the United States or within 30 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, "on-board" commercial ocean bill-of-lading in English for each shipment of cargo described in the preceding paragraph to the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, DC 20590 and to the FTA recipient (through the contractor in the case of a subcontractor's bill-of-lading.)
- c. include these requirements in all subcontracts issued pursuant to this contract when the subcontract may involve the transport of equipment, material, or commodities by ocean vessel.

**1.18 Bus Testing**

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The Contractor (Manufacturer) agrees to comply with 49 U.S.C. A 5323(c) and FTA's implementing regulation at 49 CFR Part 665 and shall perform the following:

- a. A manufacturer of a new bus model or a bus produced with a major change in components or configuration shall provide a copy of the final test report to the recipient at a point in the procurement process specified by the recipient which will be prior to the recipient's final acceptance of the first vehicle.
- b. A manufacturer who releases a report under paragraph 1 above shall provide notice to the operator of the testing facility that the report is available to the public.
- c. If the manufacturer represents that the vehicle was previously tested, the vehicle being sold should have the identical configuration and major components as the vehicle in the test report, which must be provided to the recipient prior to recipient's final acceptance of the first vehicle. If the configuration or components are not identical, the manufacturer shall provide a description of the change and the manufacturer's basis for concluding that it is not a major change requiring additional testing.
- d. If the manufacturer represents that the vehicle is "grandfathered" (has been used in mass transit service in the United States before October 1, 1988, and is currently being produced without a major change in configuration or components), the manufacturer shall provide the name and address of the recipient of such a vehicle and the details of that vehicle's configuration and major components.

**1.19 Pre-Award and Post-Delivery Audit Requirements**

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The Contractor agrees to comply with 49 U.S.C. § 5323(l) and FTA's implementing regulation at 49 C.F.R. Part 663 and to submit the following certifications:



- a. Buy America Requirements: The Contractor shall complete and submit a declaration certifying either compliance or noncompliance with Buy America. If the Bidder/Offeror certifies compliance with Buy America, it shall submit documentation which lists 1) component and subcomponent parts of the rolling stock to be purchased identified by manufacturer of the parts, their country of origin and costs; and 2) the location of the final assembly point for the rolling stock, including a description of the activities that will take place at the final assembly point and the cost of final assembly.
- b. Solicitation Specification Requirements: The Contractor shall submit evidence that it will be capable of meeting the bid specifications.
- c. Federal Motor Vehicle Safety Standards (FMVSS): The Contractor shall submit 1) manufacturer's FMVSS self-certification sticker information that the vehicle complies with relevant FMVSS or 2) manufacturer's certified statement that the contracted buses will not be subject to FMVSS regulations.

#### 1.20 Lobbying

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Byrd Anti-Lobbying Amendment, 31 U.S.C. 1352, as amended by the Lobbying Disclosure Act of 1995, P.L. 104-65 (to be codified at 2 U.S.C. § 1601, et seq.) - Contractors who apply or bid for an award of \$100,000 or more shall file the certification required by 49 CFR part 20, "New Restrictions on Lobbying." Each tier certifies to the tier above that it will not and has not used Federal appropriated funds to pay any person or organization for influencing or attempting to influence an officer or employee of any agency, a member of Congress, officer or employee of Congress, or an employee of a member of Congress in connection with obtaining any Federal contract, grant or any other award covered by 31 U.S.C. 1352. Each tier shall also disclose the name of any registrant under the Lobbying Disclosure Act of 1995 who has made lobbying contacts on its behalf with non-Federal funds with respect to that Federal contract, grant or award covered by 31 U.S.C. 1352. Such disclosures are forwarded from tier to tier up to the recipient.

#### 1.21 Breaches and Dispute Resolution

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- a. Disputes — Disputes arising in the performance of this Contract which are not resolved by agreement of the parties shall be decided in writing by the authorized representative of (Recipient)'s (title of employee). This decision shall be final and conclusive unless within (ten (10)) days from the date of receipt of its copy, the Contractor mails or otherwise furnishes a written appeal to the (title of employee). In connection with any such appeal, the Contractor shall be afforded an opportunity to be heard and to offer evidence in support of its position. The decision of the (title of employee) shall be binding upon the Contractor and the Contractor shall abide by the decision.
- b. Performance during Dispute — Unless otherwise directed by (Recipient), Contractor shall continue performance under this Contract while matters in dispute are being resolved.
- c. Claims for Damages — Should either party to the Contract suffer injury or damage to person or property because of any act or omission of the party or of any of his employees, agents or others for whose acts he is legally liable, a claim for damages therefor shall be made in writing to such other party within a reasonable time after the first observance of such injury or damage.



- d. Remedies — Unless this contract provides otherwise, all claims, counterclaims, disputes and other matters in question between the (Recipient) and the Contractor arising out of or relating to this agreement or its breach will be decided by arbitration if the parties mutually agree, or in a court of competent jurisdiction within the State in which the (Recipient) is located.
- e. Rights and Remedies — The duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law. No action or failure to act by the (Recipient), (Architect) or Contractor shall constitute a waiver of any right or duty afforded any of them under the Contract, nor shall any such action or failure to act constitute an approval of or acquiescence in any breach thereunder, except as may be specifically agreed in writing.

#### **1.22 Access Requirements for Persons with Disabilities**

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Contractor shall comply with 49 USC 5301(d), stating Federal policy that the elderly and persons with disabilities have the same rights as other persons to use mass transportation services and facilities and that special efforts shall be made in planning and designing those services and facilities to implement that policy. Contractor shall also comply with all applicable requirements of Sec. 504 of the Rehabilitation Act (1973), as amended, 29 USC 794, which prohibits discrimination on the basis of handicaps, and the Americans with Disabilities Act of 1990 (ADA), as amended, 42 USC 12101 et seq., which requires that accessible facilities and services be made available to persons with disabilities, including any subsequent amendments thereto.

#### **1.23 Intelligent Transportation Systems (ITS) National Architecture**

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To the extent applicable, the CONTRACTOR agrees to conform to the National Intelligent Transportation System (ITS) Architecture and Standards as required by 23 U.S.C. Section 517(d), 23 U.S.C. Section 512 note, and 23 CFR Part 655 and 940, and follow the provisions of the FTA Notice, "FTA National ITS Architecture Policy on Transit projects," 66 Fed. Reg. 1455 et seq., January 8, 2001, and any other implementing directives the FTA may issue at a later date, except to the extent the FTA determines otherwise in writing.

#### **1.24 \*Prohibition on Certain Telecommunications and Video Surveillance Services or Equipment.**

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**AWARDING AGENCY is prohibited from obligating or expending loan or grant funds to:**

**A. Procure or obtain;**

**B. Extend or renew a contract to procure or obtain; or**

**C. Enter into a contract (or extend or renew a contract) to procure or obtain equipment, services, or systems that uses covered telecommunications**

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**equipment or services as a substantial or essential component of any system, or as critical technology as part of any system. As described in Public Law 115-232, section 889, covered telecommunications equipment is telecommunications equipment produced by Huawei Technologies Company or ZTE Corporation (or any subsidiary or affiliate of such entities).**



- 1. For the purpose of public safety, security of government facilities, physical security surveillance of critical infrastructure, and other national security purposes, video surveillance and telecommunications equipment produced by Hytera Communications Corporation, Hangzhou Hikvision Digital Technology Company, or Dahua Technology Company (or any subsidiary or affiliate of such entities).**
- 2. Telecommunications or video surveillance services provided by such entities or using such equipment.**
- 3. Telecommunications or video surveillance equipment or services produced or provided by an entity that the Secretary of Defense, in consultation with the Director of the National Intelligence or the Director of the Federal Bureau of Investigation, reasonably believes to be an entity owned or controlled by, or otherwise connected to, the government of a covered foreign country.**
- D. In implementing the prohibition under Public Law 115-232, section 889, subsection (f), paragraph (1), heads of executive agencies administering loan, grant, or subsidy programs shall prioritize available funding and technical support to assist affected businesses, institutions and organizations as is reasonably necessary for those affected entities to transition from covered communications equipment and services, to procure replacement equipment and services, and to ensure that communications service to users and customers is sustained.**
- E. CONTRACTOR represents and warrants that it has performed a due diligence review of its supply chain and that no such "covered telecommunications equipment or services" shall be provided to the AWARDING AGENCY that would cause the AWARDING AGENCY to be in violation of the prohibition contained in the Act.**

#### 1.25 Legal Matters Concerning a Covered Transaction

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- A. If a current or prospective legal matter that may affect the Federal Government or STATE emerges, the AWARDING AGENCY must promptly notify the STATE. The AWARDING AGENCY must include a similar notification requirement in its Third Party Agreements and must require each CONTRACTOR to include an equivalent provision in its subagreements at every tier, for any agreement that is a "covered transaction" according to 2 C.F.R. §§ 180.220 and 1200.220.
- 
- 1. The types of legal matters that require notification include, but are not limited to, a major dispute, breach, default, litigation, or naming the Federal Government or STATE as a party to litigation or a legal disagreement in any forum for any reason.**
  - 2. Matters that may affect the Federal Government or STATE include, but are not limited to, the Federal or STATE Government's interests in the Award, the accompanying Underlying Agreement, and any Amendments thereto, or the Federal or STATE Government's administration or enforcement of federal laws, regulations, and requirements.**



3. ***The AWARDING AGENCY must promptly notify the STATE, if the AWARDING AGENCY has knowledge of potential fraud, waste, or abuse occurring on a Project receiving assistance from FTA. The notification provision applies if a person has or may have submitted a false claim under the False Claims Act, 31 U.S.C. § 3729 et seq., or has or may have committed a criminal or civil violation of law pertaining to such matters as fraud, conflict of interest, bribery, gratuity, or similar misconduct involving FY2020 Contractors Manual – Procurement 9-49 federal assistance. This responsibility occurs whether the Project is subject to this Agreement or another agreement between the AWARDING AGENCY and STATE, or an agreement involving a principal, officer, employee, agent, or CONTRACTOR of the AWARDING AGENCY. It also applies to subcontractors at any tier. Knowledge, as used in this paragraph, includes, but is not limited to, knowledge of a criminal or civil investigation by a Federal, state, or local law enforcement or other investigative agency, a criminal indictment or civil complaint, or probable cause that could support a criminal indictment, or any other credible information in the possession of the Recipient. In this paragraph, “promptly” means to refer information without delay and without change. This notification provision applies to all divisions of the AWARDING AGENCY, including divisions tasked with law enforcement or investigatory functions.\****

## **FEDERAL CERTIFICATION FORMS**

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## **FEDERAL CERTIFICATION FORMS**

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This document consists of Federal Transit Authority (FTA) clauses. Should a term within this document conflict with a term in another part of the entire document, reference the Order of Precedence term for direction.

### **1 FEDERAL CERTIFICATION FORMS**

#### **1.1 No Obligation by the Federal Government.**

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- a. The Purchaser and Contractor acknowledge and agree that, notwithstanding any concurrence by the Federal Government in or approval of the solicitation or award of the underlying contract, absent the express written consent by the Federal Government, the Federal Government is not a party to this contract and shall not be subject to any obligations or liabilities to the Purchaser, Contractor, or any other party (whether or not a party to that contract) pertaining to any matter resulting from the underlying contract.
- b. The Contractor agrees to include the above clause in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clause shall not be modified, except to identify the subcontractor who will be subject to its provisions.

#### **1.2 Program Fraud and False or Fraudulent Statements or Related Acts.**

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- a. The Contractor acknowledges that the provisions of the Program Fraud Civil Remedies Act of 1986, as amended, 31 U.S.C. § 3801 et seq. and U.S. DOT regulations, "Program Fraud Civil Remedies," 49 C.F.R. Part 31, apply to its actions pertaining to this Project. Upon execution of the underlying contract, the Contractor certifies or affirms the truthfulness and accuracy of any statement it has made, it makes, it may make, or causes to be made, pertaining to the underlying contract or the FTA assisted project for which this contract work is being performed. In addition to other penalties that may be applicable, the Contractor further acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification, the Federal Government reserves the right to impose the penalties of the Program Fraud Civil Remedies Act of 1986 on the Contractor to the extent the Federal Government deems appropriate.
- b. The Contractor also acknowledges that if it makes, or causes to be made, a false, fictitious, or fraudulent claim, statement, submission, or certification to the Federal Government under a contract connected with a project that is financed in whole or in part with Federal assistance originally awarded by FTA under the authority of 49 U.S.C. § 5307, the Government reserves the right to impose the penalties of 18 U.S.C. § 1001 and 49 U.S.C. § 5307(n)(1) on the Contractor, to the extent the Federal Government deems appropriate.
- c. The Contractor agrees to include the above two clauses in each subcontract financed in whole or in part with Federal assistance provided by FTA. It is further agreed that the clauses shall not be modified, except to identify the subcontractor who will be subject to the provisions.



## **CERTIFICATION AND RESTRICTIONS ON LOBBYING**

I, John Walsh - Chief Commercial Officer, hereby certify

(Name and title of official)

On behalf of Proterra Operating Company, Inc. that:

(Name of Bidder/Company Name)

- No federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, and officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any federal contract, the making of any federal grant, the making of any federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any federal contract, grant, loan, or cooperative agreement.
- If any funds other than federal appropriated funds have been paid or will be paid to any person influencing or attempting to influence an officer or employee of any agency, a Member of Congress, and officer or employee of Congress, or an employee of a Member of Congress in connection with the federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form – LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
- The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including sub-contracts, sub-grants and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. § 1352 (as amended by the Lobbying Disclosure Act of 1995). Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

The undersigned certifies or affirms the truthfulness and accuracy of the contents of the statements submitted on or with this certification and understands that the provisions of

31 U.S.C. Section 3801, et seq., are applicable thereto.

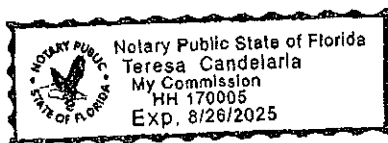
Name of Bidder/Company Name Proterra Operating Company, Inc.

Type or print name John Walsh - Chief Commercial Officer

Signature of authorized representative *John Walsh*

Date 5/20/22

Signature of notary and SEAL *Teresa Candelaria*



## **GOVERNMENT-WIDE DEBARMENT AND SUSPENSION (NONPROCUREMENT)**

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Instructions for Certification: By signing and submitting this bid or proposal, the prospective lower tier participant is providing the signed certification set out below.

(1) It will comply and facilitate compliance with U.S. DOT regulations, "Nonprocurement Suspension and Debarment," 2 CFR part 1200, which adopts and supplements the U.S. Office of Management and Budget (U.S. OMB) "Guidelines to Agencies on Governmentwide Debarment and Suspension (Nonprocurement)," 2 CFR part 180,

(2) To the best of its knowledge and belief, that its Principals and Subrecipients at the first tier:

a. Are eligible to participate in covered transactions of any Federal department or agency and are not presently:

- 1) Debarred
- 2) Suspended,
- 3) Proposed for debarment,
- 4) Declared ineligible,
- 5) Voluntarily excluded, or
- 6) Disqualified

b. Its management has not within a three-year period preceding its latest application or proposal been convicted of or had a civil judgment rendered against any of them for:

- 1) Commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction, or contract under a public transaction,
- 2) Violation of any Federal or State antitrust statute, or
- 3) Commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making any false statement, or receiving stolen property,

c. It is not presently indicted for, or otherwise criminally or civilly charged by a governmental entity (Federal, State, or local) with commission of any of the offenses listed in the preceding subsection 2.b of this Certification,

d. It has not had one or more public transactions (Federal, State, or local) terminated for cause or default within a three-year period preceding this Certification,

e. If, at a later time, it receives any information that contradicts the statements of subsections 2.a – 2.d above, it will promptly provide that information to FTA,

f. It will treat each lower tier contract or lower tier subcontract under its Project as a covered lower tier contract for purposes of 2 CFR part 1200 and 2 CFR part 180 if it:

- 1) Equals or exceeds \$25,000,
- 2) Is for audit services, or
- 3) Requires the consent of a Federal official, and

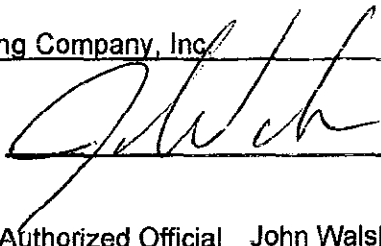
- g. It will require that each covered lower tier contractor and subcontractor:
- 1) Comply and facilitate compliance with the Federal requirements of 2 CFR parts 180 and 1200, and
  - 2) Assure that each lower tier participant in its Project is not presently declared by any Federal department or agency to be:
    - a. Debarred from participation in its federally funded Project,
    - b. Suspended from participation in its federally funded Project,
    - c. Proposed for debarment from participation in its federally funded Project,
    - d. Declared ineligible to participate in its federally funded Project,
    - e. Voluntarily excluded from participation in its federally funded Project, or
    - f. Disqualified from participation in its federally funded Project, and
- (3) It will provide a written explanation as indicated on a page attached in FTA's TEAM-Web or the Signature Page if it or any of its principals, including any of its first tier Subrecipients or its Third Party Participants at a lower tier, is unable to certify compliance with the preceding statements in this Certification Group.

---

**Certification**

Contractor Proterra Operating Company, Inc.

Signature of Authorized Official



Date

5/20/22

Name and Title of Contractor's Authorized Official John Walsh - Chief Commercial Officer



## BUS TESTING CERTIFICATION

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The undersigned bidder [Contractor/Manufacturer] certifies that the vehicle model or vehicle models offered in this bid submission complies with 49 CFR Part 665.

A copy of the test report (for each bid ITEM) prepared by the Federal Transit Administration's (FTA) Altoona, Pennsylvania Bus Testing Center is attached to this certification and is a true and correct copy of the test report as prepared by the facility.

The undersigned understands that misrepresenting the testing status of a vehicle acquired with Federal financial assistance may subject the undersigned to civil penalties as outlined in the U.S. Department of Transportation's regulation on Program Fraud Civil Remedies, 49 CFR Part 31. In addition, the undersigned understands that FTA may suspend or debar a manufacturer under the procedures in 49 CFR Part 29.

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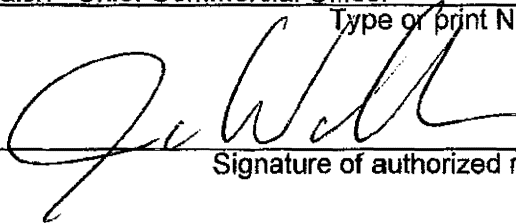
Proterra Operating Company, Inc.

Name of Bidder/Company Name

---

John Walsh - Chief Commercial Officer

Type or print Name

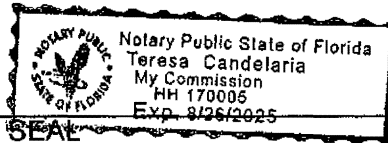


Signature of authorized representative

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Signature of notary and SEAL



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5/20/22

Date of Signature

**PRE- AWARD CERTIFICATION REQUIREMENT FOR PROCUREMENT OF ROLLING STOCK (RECIPIENT)**

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**BUY AMERICA REQUIREMENTS**

Contractor shall complete and submit a declaration certifying either compliance or noncompliance with Buy America. If contractor certifies compliance with Buy America, it shall submit documentation listing:

- A. Component and subcomponent parts of the rolling stock to be purchased identified by manufacturer of the parts, their country of origin and costs; and
- B. The location of the final assembly point for the rolling stock, including a description of the activities that will take place at the final assembly point and the cost of final assembly.
- C. Solicitation Specification Requirements: Contractor shall submit evidence that it will be capable of meeting the bid specifications.
- D. Federal Motor Vehicle Safety Standards (FMVSS): Contractor shall submit 1) manufacturer's FMVSS self-certification sticker information that the vehicle complies with relevant FMVSS or 2) manufacturer's certified statement that the buses will not be subject to FMVSS regulations.

As required by Title 49 of the CFR, Part 663 – Subpart B, \_\_\_\_\_  
\_\_\_\_\_(the recipient) is satisfied that the buses to be purchased,

\_\_\_\_\_(Number and description of buses) from \_\_\_\_\_  
\_\_\_\_\_(the manufacturer), meet the requirements of Section 165(b)(3) of the Surface Transportation Assistance Act of 1982, as amended. The recipient or its appointed analyst \_\_\_\_\_ (the analyst – not the manufacturer or its agent), has reviewed documentation provided by the manufacturer, which lists (1) the proposed component and subcomponent parts of the buses identified by manufacturer, country of origin, and cost; and (2) the proposed location of the final assembly point for the buses, including a description of the activities that will take place at the final assembly point and the cost of final assembly.

**PRE-AWARD PURCHASER'S REQUIREMENTS CERTIFICATION**

As required by Title 49 of the CFR, Part 663 – Subpart B, \_\_\_\_\_  
\_\_\_\_\_(the recipient) certifies that the buses to be purchased, \_\_\_\_\_  
\_\_\_\_\_(number and description of buses) from \_\_\_\_\_  
\_\_\_\_\_(the manufacturer), are the same product described in the recipient's solicitation specification and that the proposed manufacturer is a responsible manufacturer with the capability to produce a bus that meets the specifications.

**PRE-AWARD FMVSS COMPLIANCE CERTIFICATION**

As required by Title 49 of the CFR, Part 663 – Subpart D, \_\_\_\_\_  
(the recipient) certifies that it received, at the pre-award stage, a copy of \_\_\_\_\_  
\_\_\_\_\_'s (the manufacturer) self-certification information stating that the buses, \_\_\_\_\_  
(number and description of buses), will comply with the relevant Federal Motor Vehicle Safety Standards issued by the National Highway Traffic Safety Administration in Title 49 of the Code of Federal Regulations, Part 571.

Date: \_\_\_\_\_

Signature: \_\_\_\_\_

Title: \_\_\_\_\_

## **PRE-AWARD CERTIFICATION FOR PROCUREMENT OF ROLLING STOCK (VENDOR)**

71 FR 14117, Mar. 21, 2006, as amended at 72 FR 53698, Sept. 20, 2007; 74 FR 30239, June 25, 2009

### **PRE-AWARD AUDIT REQUIREMENTS**

A recipient purchasing revenue service rolling stock with FTA funds must ensure that a pre-award audit under this part is complete before the recipient enters into a formal contract for the purchase of such rolling stock.

### **DESCRIPTION OF PRE-AWARD AUDIT**

A pre-award audit under this part includes— (a) A Buy America certification; (b) A purchaser's requirements certification; and (c) Where appropriate, a manufacturer's Federal Motor Vehicle Safety certification information.

### **PRE-AWARD BUY AMERICA CERTIFICATION**

For purposes of this part, a pre-award Buy America certification is a certification that the recipient keeps on file that:

- (a) There is a letter from FTA which grants a waiver to the rolling stock to be purchased from the Buy America requirements under section 165(b)(1), (b)(2), or (b)(4) of the Surface Transportation Assistance Act of 1982, as amended; or
- (b) The recipient is satisfied that the rolling stock to be purchased meets the requirements of section 165(a) or (b)(3) of the Surface Transportation Assistance Act of 1982, as amended, after having reviewed itself or through an audit prepared by someone other than the manufacturer or its agent documentation provided by the manufacturer which lists:
  - (1) The Component and subcomponent parts of the rolling stock that are produced in the United States is more than seventy percent (70%) of the cost of all components and subcomponents of the vehicle identified by the manufacturer; and
  - (2) The location of the final assembly must take place in the United States (49 CFR 661.11), including a description of the activities that will take place at the final assembly point and the cost of final assembly.

### **PRE-AWARD PURCHASERS REQUIREMENTS CERTIFICATION**

For purposes of this part, a pre-award purchaser's requirements certification is a certification a recipient keeps on file that:

- (a) The rolling stock the recipient is contracting for is the same product described in the purchaser's solicitation specification; and
- (b) The proposed manufacturer is a responsible manufacturer with the capability to produce a vehicle that meets the recipient's specification set forth in the recipient's solicitation.

If buses or other rolling stock (including train control, communication, and traction power equipment) are being procured, the appropriate certificate as set forth below shall be completed and submitted by each bidder in accordance with the requirements in 49 CFR 661.13(b).

### **PRE-AWARD FMVSS COMPLIANCE CERTIFICATION**

As required by Title 49 of the CFR, Part 663 – Subpart D, the recipient certifies that it received, at the pre- award stage, a copy of the manufacturers self-certification information stating that the buses will comply with the relevant Federal Motor Vehicle Safety Standards issued by the National Highway Traffic Safety Administration in Title 49 of the Code of Federal Regulations, Part 571.



**PRE-AWARD CERTIFICATION FOR PROCUREMENT OF ROLLING STOCK (VENDOR)**  
**CONT**

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*Bidder or offeror Certificate of:*

**COMPLIANCE with Buy America and FMVSS Rolling Stock Requirements**

The bidder or offeror hereby certifies that it will comply with the requirements of 49 U.S.C. 5323(j), and the applicable regulations of 49 CFR 661.11.

Company Proterra Operating Company, Inc.

Name John Walsh Title Chief Commercial Officer

Signature  Date 5/20/22

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*Bidder or offeror Certificate of:*

**NON-COMPLIANCE with Buy America and FMVSS Rolling Stock Requirements**

The bidder or offeror hereby certifies that it cannot comply with the requirements of 49 U.S.C. 5323(j), but may qualify for an exception to the requirement consistent with 49 U.S.C. 5323(j)(2)(C), and the applicable regulations in 49 CFR 661.7.

Company \_\_\_\_\_

Name \_\_\_\_\_ Title \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_

**ON-SITE MANUFACTURER INSPECTION COMPLIANCE CERTIFICATION**

(Post-Delivery purchaser's requirement, in compliance with the federal requirements of 49 U.S.C. Section 5323(m))

ON-SITEMANUFACTURERINSPECTIONCOMPLIANCECERTIFICATION (Rolling Stock Procurements for more than 10 vehicles for areas >200,000 in population)

As required by 49 CFR Part 663-Subpart C, the

Recipient's Name \_\_\_\_\_

Certifies that a resident inspector (name of the inspector) \_\_\_\_\_

Was at (the Manufacture's Name) \_\_\_\_\_

manufacturing site during the period of manufacture of the buses, (Descriptions of the buses \_\_\_\_\_

\_\_\_\_\_  
The inspector visually inspecting the buses, the \_\_\_\_\_ (the recipient) has reviewed the inspection documentation, maintains a copy of this report, and certifies that the buses meet the contract specifications.

ON-SITEMANUFACTURERINSPECTIONCOMPLIANCECERTIFICATION  
(Rolling Stock Procurements for more than 20 vehicles for areas <200,000 in population)

As required by 49 CFR Part 663-Subpart C, the

(Recipient's name) \_\_\_\_\_

Certifies that a resident inspector (Name of the inspector) \_\_\_\_\_

Was at \_\_\_\_\_ (the manufacturer's)

manufacturing site during the period of manufacture of the buses, (description of the buses \_\_\_\_\_

\_\_\_\_\_  
The inspector visually inspecting the buses, the (the recipient) \_\_\_\_\_

has reviewed the inspection documentation, maintains a copy of this report, and certifies that the buses meet the contract specifications.

Signature: \_\_\_\_\_ Date \_\_\_\_\_

Title: \_\_\_\_\_

### **TRANSIT VEHICLE MANUFACTURER (TVM) CERTIFICATION**

Pursuant to the provisions of Section 105(f) of the Surface Transportation Assistance Act of 1982, each bidder for this contract must certify that it has complied with the requirements of 49 CFR Part 26.49, regarding the participation of Disadvantaged Business Enterprises (DBE) in FTA assisted procurements of transit vehicles. Absent this certification, properly completed and signed, a bid shall be deemed non-responsive.

#### **Certification:**

I hereby certify, for the bidder named below, that it has complied with the provisions of 49 CFR Part 26.49 and that I am duly authorized by said bidder to make this certification.

#### **BIDDER/COMPANY**

Name of Bidder/Company Proterra Operating Company, Inc.

Signature of Representative 

Type or Print Name John Walsh

Title Chief Commercial Officer

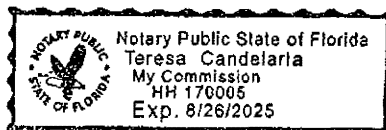
Date 5/20/22

#### **NOTARY**

Type or Print Name Teresa Candalaria

Signature of Notary 

Place Notary SEAL Here:





## **Attachment H**

# New Bus Manufacturing & Inspection Guidelines

## **New Bus Manufacturing Inspection Guidelines**

### **1. Pre-Production Meeting**

#### **1.1. Responsibilities**

##### **1.1.1. Agency**

- Provides conformed copy of technical requirements.
- Recommended staff to be involved may include the following:
  - Project Manager
  - Technical Engineer
  - Contract Administrator
  - Quality Assurance Administrator
  - Warranty Administrator
- Process for Inspector's role (to deal with Agency) for negotiated changes after freeze date
- Contractual requirements
  - Milestones
  - Documentation
  - Title requirements
  - Deliverables
  - Payments
  - Reliability tracking

##### **1.1.2. Manufacturer**

- Identifies open issues
- Recommended staff to be involved may include the following:
  - Project Manager
  - Technical Engineer(s)
  - Contract Administrator
  - Quality Assurance Administrator
  - Warranty Administrator
- Production flow (buses/week, shifts)
- Delivery schedule and offsite component build-up schedule
- Bus Quality Assurance documentation (including supplier application approvals and/or any certifications required for the specific production)
- Communication flow/decision making

##### **1.1.3. Inspector**

- Agree on decisions inspectors can and cannot make
- Primary contact for problems, etc.
- Production flow process (description of manufacturing by station)
- Factory hours (manage inspection schedule based on production hours)
- Plant rules
- Safety requirements

- Orientation requirements
- Work environment
- Inspector's office space

Note: As a result of this meeting, documentation should be produced detailing final production requirements and the planned configuration of the bus.

### **1.2. Build Schedule**

The bus Manufacturer's Contract Administrator shall supply a fleet build production schedule based on the dates in the Notice to Proceed, and a description of the manufacturer's schedule for plant operations.

The production schedule should contain specific milestone dates, such as the following:

- First vehicle on production line (date on which any work will begin).
- First vehicle off production line.
- First vehicle through manufacturer's quality assurance inspections.
- First vehicle shipped to the Agency.
- Last vehicle on production line.
- Last vehicle off production line.
- Last vehicle shipped to the Agency.

### **1.3. Plant Tour if Meeting at OEM's Location**

The Agency will review the entire process from start to finish and review the work completed at each line station, including quality control measures.

### **1.4. Prototype Vehicle Production**

The Contractor shall conduct acceptance tests at its plant on each bus following completion of manufacture and before delivery to the Agency. These pre-delivery tests shall include visual and measured inspections, as well as testing the total bus operation. The tests shall be conducted and documented in accordance with written test plans approved by the Agency. The underfloor equipment shall be available for inspection by the resident inspectors, using a pit or bus hoist provided by the Contractor. A hoist, scaffold or elevated platform shall be provided by the Contractor to easily and safely inspect bus roofs. Delivery of each bus shall require written authorization of the primary resident inspector. Authorization forms for the release of each bus for delivery shall be provided by the Contractor. An executed copy of the authorization shall accompany the delivery of each bus.

Additional tests may be conducted at the Agency's discretion to ensure that the completed buses have attained the required quality and have met the requirements in the APTA "Standard Bus Procurement Guidelines RFP," Section 6: Technical Specifications. The Agency may, prior to commencement of production, demand that the Contractor demonstrate compliance with any requirement in that section if there is evidence that prior tests have been invalidated by the Contractor's change of Supplier or change in manufacturing process. Such demonstration shall be by actual test, or by supplying a report of a previously performed test on similar or like components and



configuration. Any additional testing shall be recorded on appropriate test forms provided by the Contractor and shall be conducted before acceptance of the bus.

The pre-delivery tests shall be scheduled and conducted with thirty (30) days' notice so that they may be witnessed by the resident inspectors, who may accept or reject the results of the tests. The results of pre-delivery tests, and any other tests, shall be filed with the assembly inspection records for each bus.

### **1.5. Visual and Measured Inspections**

Visual and measured inspections shall be conducted with the bus in a static condition. The purpose of the inspection testing includes verification of overall dimension and weight requirements, that required components are included and are ready for operation, and that components and subsystems designed to operate with the bus in a static condition do function as designed.

### **1.6. Total Bus Operations**

Total bus operation shall be evaluated during road tests. The purpose of the road tests is to observe and verify the operation of the bus as a system and to verify the functional operation of the subsystems that can be operated only while the bus is in motion.

Each bus shall be driven for a minimum of fifteen (15) miles during the road tests. If requested, computerized diagnostic printouts showing the performance of each bus shall be produced and provided to the Agency. Observed defects shall be recorded on the test forms. The bus shall be retested when defects are corrected and adjustments are made. This process shall continue until defects or required adjustments are no longer detected.

### **1.7. Post-Delivery Tests**

The Agency shall conduct acceptance tests on each delivered bus. These tests shall be completed within fifteen (15) days after bus delivery and shall be conducted in accordance with the Agency's written test plans. The purpose of these tests is to identify defects that have become apparent between the time of bus release and delivery to the Agency. The post-delivery tests shall include visual inspection and bus operations. No post-delivery test shall apply new criteria that are different from criteria applied in a pre-delivery test.

Buses that fail to pass the post-delivery tests are subject to non-acceptance. The Agency shall record details of all defects on the appropriate test forms and shall notify the Contractor of acceptance or non-acceptance of each bus, after completion of the tests. The defects detected during these tests shall be repaired according to procedures defined in the contract.

### **1.8. Prototype/Pilot Vehicle Acceptance**

In order to assess the Contractor's compliance with the Technical Specifications, the Agency and the Contractor shall, at the Pre-Production Meeting, jointly develop a Configuration and Performance Review document for review of the pilot vehicle. This document shall become part of the official record of the Pre-Production Meeting.

Potential dimensional/performance tests that may be included in the Configuration and Performance Review include the following:

- Complete electrical system audit
- Dimensional requirements audit
- Seating capacity
- Water test
- Water runoff test
- Function test of systems/subsystems and components
- Sound/noise level tests
- Vehicle top speed
- Acceleration tests
- Brake stop tests
- Airflow tests
- PA function tests
- Air/brake system audit
- Individual axle weight
- Standee capacity
- Body deflection tests
- Silent alarm function test
- Interior lighting
- Exterior lighting
- Gradability test
- Kneeling system function
- HVAC pulldown/heat
- Speedometer
- Outside air infiltration (smoke)
- Wheelchair ramps

### 1.9. Buy America Audit

A post-delivery Buy America audit is required for federally funded bus procurements (see 49 CFR Part 663 for additional information). The onsite resident inspectors are to monitor the production processes to verify compliance with final assembly requirements identified by the Buy America pre-award audit. This audit is to verify compliance with final assembly requirements and final documentation of Buy America compliance and must be completed prior to title transfer.

**NOTE:** If there is not a prototype/pilot bus, then the Buy America post-delivery audit should be performed following completion of the first serial production bus. In addition to monitoring of the production processes, the Agency must verify compliance that more than 60 percent of the costs of all components are produced in the United States. Finally, the Agency must execute the required certificates.

## **2. Resident Inspection Process for Serial Production**

At the discretion of the Agency, a decision is made to perform resident inspection using the Agency's personnel, a contract inspector, or a combination of both. The decision is based on factors such as the availability of personnel, knowledge/expertise in bus build project management, the size of the bus order, etc.

**NOTE:** The decision to have the resident inspection performed by Agency personnel results in a firm understanding and knowledge of the bus and affords the opportunity to identify parts that will be needed for general maintenance down the road.

### **2.1. Inspector Responsibilities**

The resident inspection process for the serial production of the buses begins following the completion and acceptance of the prototype or pilot vehicle if required, or according to the serial bus production schedule. Resident inspectors should represent the Agency for all build-related issues (quality, conformance, etc.). Resident inspectors can also address contractual type issues but should only do so under the consult of the Agency's Contract Administrator. Resident inspectors are sent to the manufacturer's facility according to a Resident Inspection Schedule. Typically, one or two inspectors arrive on site at the manufacturing facility about one week prior to actual production to set up the resident inspection process and to begin preliminary quality assurance inspections for items such as power plant build-up and wire harness production, and to inspect incoming parts, fasteners, fluids, etc., that will be used in the production of the buses. During the serial production of the buses, the resident inspectors should monitor the production of each bus, verifying the quality of materials, components, sub-assemblies and manufacturing standards. In addition, the configuration of each vehicle should be audited using the vehicle manufacturer's Build Specification and other documents to ensure contract compliance and uniformity.

### **2.2. Inspector Rotation/Scheduling**

During the resident inspection phase, a single inspector or multiple inspectors could be used. If it is decided to use multiple inspectors, then the inspectors could be rotated on a biweekly to monthly basis as required. During the rotation of inspectors, a sufficient period of overlap should be provided to guarantee the consistency of the resident inspection process.

### **2.3. Resident Inspector Orientation**

A resident inspector orientation by the bus manufacturer should take place upon the arrival of the initial inspection team. The orientation should include expectations for the use of personal protective equipment (safety shoes, safety glasses, etc.), daily check-in and check-out requirements, lines of communication, use of production documents such as speed memos and line movement charts, inspector/production meetings, inspector office arrangements, and anything else pertinent to the inspection team's



involvement during the build. Many of the above items should already be formalized during the Pre-Production Meeting.

## **2.4. Audits, Inspections, and Tests**

The resident inspection process monitors the production of each vehicle. Inspection stations should be strategically placed to test or inspect components or other installations before they are concealed by subsequent fabrication or assembly operations. These locations typically are placed for the inspection of underbody structure, body framing, electrical panels and harnesses, air and hydraulic line routings, installation of insulation, power plant build-up and installation, rust inhibitor/undercoating application, floor installation, front suspension alignment, and other critical areas.

## **2.5. Vehicle Inspections**

Each bus is subjected to a series of inspections after the bus reaches the point of final completion on the assembly line. Typically, the vehicle manufacturer performs its own quality assurance inspections following assembly line completion before releasing each bus to the resident inspectors. The inspections for each vehicle are documented, signed off upon passing and included in the vehicle record.

These are the typical inspections performed on each bus by the resident inspectors:

- Water test inspection
- Road test inspection
- Interior inspection (including functionality)
- Hoist/undercarriage inspection
- Exterior inspection (including roof)
- Electrical inspection
- Wheelchair ramp/lift inspection

### **2.5.1. Water Test Inspection**

The water test inspection checks the integrity of the vehicle's body seams, window frame seals and other exterior component close-outs for their ability to keep rainwater, road splash, melting snow and slush, and other exterior water from entering the inside of the vehicle. The vehicle's interior is inspected for signs of moisture and water leaks. To perform the leak inspection, interior ceiling and side panels are removed, and access doors are opened. If any moisture or water is detected, then the source of the leak will be located and repaired by the manufacturer, and the vehicle will be tested again.

### **2.5.2. Road Test Inspection**

The road test inspection checks all the vehicle's systems and subsystems while the vehicle is in operation. Typically, the road test inspection is performed immediately following the water test inspection to reveal any standing water that may be present due to a leak, but was not noticed during the "static" water test. Objectionable vibrations, air leakage and other factors that affect ride quality are recorded and reported to the vehicle manufacturer for resolution. Vehicle

stability, performance, braking and interlock systems, HVAC, and other critical areas are checked to ensure that the vehicle is complete and ready to provide safe and reliable service.

The following tests may be performed and recorded during the road test inspection:

- Acceleration test
- Top speed test
- Gradability test
- Service brake test
- Parking brake test
- Turning effort test
- Turning radius test
- Shift quality
- Quality of retarder or regenerative braking action

During the road test inspection, a vehicle may be taken to a weigh station to record the vehicle's front axle weight, rear axle weight and total vehicle (curb) weight.

### **2.5.3. Interior Inspection**

The interior inspection checks the fit and finish of the interior installations.

In addition, the inspection also verifies the installation and function of systems and subsystems according to the Build Specification. All systems and functions accessed from the interior are inspected for functionality, appearance and safety.

Examples of systems/functions inspected include the following:

- Interior and exterior lighting controls
- Front and rear door systems
- Flooring installation
- Passenger and operator's seat systems
- Wheelchair securement and ramp systems
- Fire suppression system
- Electrical installations (multiplex, tell-tale wiring, panels, etc.)
- Window systems and emergency escape portals
- Operator dash/side panel controls/indicators

### **2.5.4. Hoist/Undercarriage Inspection**

The hoist/undercarriage inspection checks the installation of components, wiring, air lines, presence of fluid leaks, etc., located under the vehicle. Typically, this inspection is performed following the road test. The vehicle is lifted onto a hoist or pulled over a pit for the inspection. Areas inspected are the front suspension, air bags, air line routings, electrical connections and routings, drivetrain

components, linkages, and any other system or component that may be prone to early failure due to inadequate installation techniques. All lines, cables, hoses, etc., are inspected for proper securement and protection to prevent rubbing, chafing or any other condition that could result in a failure. The powerplant and HVAC compartments are also inspected during this time.

#### **2.5.5. Exterior Inspection**

The exterior inspection checks the fit and finish of components installed on the exterior of the vehicle. Access panels are opened and accessories are inspected for proper installation. In addition, vehicle paint, graphics and proper decals are also inspected. Acceptable paint finish quality (orange peel, adhesion, etc.) should be agreed on with the vehicle manufacturer prior to production to ensure consistency of inspections.

#### **2.5.6. Electrical Inspection**

The vehicle's main electrical panels and other subpanels are inspected for proper components, to include relays, fuses, modules, terminal strips, decals, etc. In addition, electrical harnesses are inspected for proper wiring and termination techniques, bulkhead protection, looming and other items that could result in future electrical failure. Onboard vehicle compartment schematics are verified for accuracy.

#### **2.5.7. Wheelchair Ramp Inspection**

The wheelchair ramp assembly is inspected for proper installation and performance. Clearances critical to the operation of the ramp are verified, and the ramp's electrical systems are inspected to ensure appropriate wire routings and protection. The successful integration of the ramp assembly into the vehicle is verified, and the vehicle interlocks are checked during automatic and manual ramp operation.

### **2.6. Audits**

During serial production of the bus's quality assurance inspection, tests may be performed to ensure that the manufacturer's quality standards are being followed. These inspection audits could be on items such as torque wrench calibrations, proper techniques for fastener installations, proper use and type of adhesives, use of correct installation drawings on the production line, etc.

### **2.7. Communications**

The lines of communications, formal and informal, should be discussed and outlined in the Pre-Production Meeting. As previously discussed, resident inspectors should represent the Agency for all bus-build related issues (quality, conformance, etc.). Resident inspectors can relay communications addressing contractual type issues but should do so only under the consult of the Agency's contract administrator. Actual personnel contacts for the manufacturing facility should be established during resident



inspector orientation. These contacts could include quality assurance, production, material handling, engineering and buy-off area personnel.

## 2.8. Documentation

The following documents/reports are typically generated during the bus build process:

- Vehicle build specification
- Sales order
- Pre-Production Meeting notes
- Prototype and production correspondence (vehicle build file)
- Manufacturer's vehicle record (Warranty file)
  - Vehicle line documents
  - Serialization documents (Warranty file)
  - Alignment verification
  - Brake testing
  - HVAC testing and checkout
  - Manufacturer's QA checklist and signoff
- Weight slip (prototype and Warranty file)
- Prototype performance tests document (vehicle build file)
  - Acceleration Test
  - Top Speed Test
  - Gradability Test
  - Interior Noise Test A – Stationary
  - Interior Noise Test B – Dynamic
  - Exterior Noise Test A – Pull Away
  - Exterior Noise Test B – Pass-By
  - Exterior Noise Test C – Curb Idle
  - Turning Radius Test
  - Turning Effort Test
  - Parking Brake Test
  - Service Brake Test
- Vehicle Acceptance Inspections—Production (Warranty file)
  - Water Test Inspection Report
  - Road Test Inspection Report
  - Interior Inspection Report
  - Hoist/Undercarriage Inspection Report
  - Exterior Inspection Report
  - Electrical Inspection Report
  - Wheelchair Inspection Report
- Speed Memos (Warranty file)
- Agency Vehicle Inspection record (Warranty file)
- Release for delivery documentation (Warranty file)
- Post-Production Acceptance – Certificate of Acceptance (Accounting)
- Post-Delivery Inspection Report – (Fleet Management & Warranty files)

### 2.9. Vehicle Release for Delivery

Upon satisfactory completion of all inspection, audit and test criteria, and resolution of any outstanding issues affecting the purchase of any or all buses, proper documentation (the Release for Delivery) is signed by the designated resident inspector authorizing the bus manufacturer to deliver the vehicle to the Agency's facility, where it will undergo a post-delivery inspection process and final acceptance. The satisfactory sign-off of the Release for Delivery should complete the resident inspector's duties for each bus. In final preparation for delivery, the bus manufacturer may request the resident inspector to do a final walk-through of the bus after it has been cleaned and prepped for shipping.

### 3. Post-Delivery and Final Acceptance

The Agency shall conduct acceptance tests on each delivered bus. These tests shall be completed within fifteen (15) days after bus delivery and shall be conducted in accordance with the Agency's written test plans. The purpose of these tests is to identify defects that have become apparent between the time of bus release and delivery to the Agency. The post-delivery tests shall include visual inspection, along with a verification of system(s) functionality and overall bus operations. No post-delivery test shall apply new criteria that are different from criteria applied in a pre-delivery test.

Buses that fail to pass the post-delivery tests are subject to non-acceptance. The Agency shall record details of all defects on the appropriate test forms and shall notify the Contractor of acceptance or non-acceptance of each bus within five (5) days after completion of the tests. The defects detected during these tests shall be repaired according to procedures defined in the contract after non-acceptance.

#### 3.1. Certificate of Acceptance

- **Accepted**
- **Not accepted:** In the event that the bus does not meet all requirements for acceptance. The Agency must identify reasons for non-acceptance and work with the OEM to develop a timeline of addressing the problem for a satisfactory resolution and redelivery.
- **Conditional acceptance:** In the event that the bus does not meet all requirements for acceptance, the Agency may conditionally accept the bus and place it into revenue service pending receipt of Contractor furnished materials and/or labor necessary to address the identified issue(s).

\*\*\*\*\*

**Item E**

Additional terms and conditions for  
implementing California state contract for the  
purchase of Proterra buses

## **ADDITIONAL TERMS AND CONDITIONS**

These additional terms and conditions (this "Agreement") apply to the purchase of electric buses ("Bus" or "Buses"), as more specifically set forth in a purchase order, between Sonoma County Transit ("Customer") and Proterra Operating Company, Inc. ("Contractor") pursuant to that certain State of California Statewide Contract, with an issue and effective date of May 20, 2021, as amended and extended, between Contractor and the State of California ("State of California Contract"). In the event of any conflict between this Agreement and the terms in the State of California Contract, the terms and conditions set forth in this Agreement shall govern. Capitalized terms not defined herein shall be ascribed the meanings given to them in the State of California Contract or in the purchase order(s) between Customer and Contractor. Customer and Contractor are each referred to herein as a "Party" and collectively "Parties".

### **I. PAYMENT**

- a. At any time prior to the start of production of the Bus, Contractor may adjust the Base Unit Price using the US Department of Labor/Bureau of Labor Statistics Producer Price Index (PPI) Category 1413, "Trucks and Bus Bodies", which shall be communicated to Customer in writing. It is understood and agreed by Customer and Contractor that Contractor will be responsible for the collection (as an addition to the aforementioned total contract price) and remittance of sales tax, unless Customer provides exemption or similar documentation. Labor Rates for any work chargeable to Customer are based on the hourly rate of a Senior Field Service Technician, at \$145.00 per hour, subject to annual increase.
- b. Contractor will submit an invoice to Customer and Customer will make payments, on the following schedule:
  - i. Bus Payments. Customer shall make progress payments on a per-Bus basis in accordance with the below provisions:
    1. 25% payment of the Bus Unit Price when Bus enters the production line.
    2. 25% payment of the Bus Unit Price when batteries are installed in a Bus.
    3. 25% payment of the Bus Unit Price when Bus completes pre-delivery testing in accordance with the provisions of this Agreement.
    4. 25% payment of the Bus Unit Price when Bus is delivered by Contractor at Customer's facility in accordance with the provisions of this Agreement.
  - ii. Battery Replacement Payment and Payment for Proterra Extended Bus Warranty. Customer agrees that it will promptly make payment for the Battery Replacement Program, the Proterra Extended Bus Warranty and/or any Replacement Plans or Extended Warranties (each as may be set forth in the applicable attachments hereto) with respect to each applicable Bus upon receiving an invoice from Contractor after Customer requests any such program or warranty.
  - iii. Customer shall be charged and shall promptly make payments for spare parts and/or equipment at the unit prices itemized in the price schedule to be delivered by Contractor within fifteen (15) calendar days after the delivery of said spare parts and/or equipment and receipt of a proper



## **ADDITIONAL TERMS AND CONDITIONS**

invoice. Customer shall also be responsible for and pay any sales tax associated with the purchase of any such spare parts and/or equipment.

- c. Customer shall be responsible for the payment of all delivery, shipping, freight, and related insurance costs incurred by Seller in connection with the shipment of Buses from Seller's facility to Customer's facility. Freight costs will be included in the overall contract price.
- d. Unless otherwise set forth herein, Customer shall make all payments to Contractor no later than fifteen (15) calendar days after receipt of an invoice from Contractor. Contractor may charge interest for late payment if payment is delayed after the payment due dates set forth in this Section I. Interest will be charged at a rate not to exceed the prime rate of interest published by The Wall Street Journal plus 3% commencing with the date such payment was due.
- e. All payments due under this Agreement in excess of Twenty-Five Thousand Dollars (\$25,000) shall be made by wire to Contractor unless otherwise mutually agreed in writing by the Parties pursuant to the following wiring instructions:

Bank of America Merrill Lynch  
Proterra Lockbox 741340  
PO Box 741340  
Los Angeles, CA 90074-1340  
ABA Number: 1210-0035-8  
Beneficiary Account Number: 1416800802  
SWIFT: BOFAUS3N  
Beneficiary Address: 1 Whitlee Ct., Greenville, SC 29607

- f. Unless otherwise provided in this Agreement, Contractor shall pay all federal, state and local taxes, and duties applicable to and assessable against any work, goods, services, processes and operations incidental to or involved in the Agreement, excluding sales taxes associated with the sale of the items set forth herein to Customer (i.e., for the avoidance of doubt, Customer shall pay any and all sales taxes associated with or resulting from purchases pursuant to this Agreement).

## **II. ADDITIONAL EQUIPMENT, SERVICES AND DELIVERABLES**

The Parties recognize that additional services and equipment are necessary for Contractor to fully implement the Buses, which are set forth below as either being included in or excluded from the contract price.

### Included in the Contract Price:

- 1. Driver, Maintenance and Repair and Parts Manuals, in quantities/formatting provided.

### Additional Charge/Not Included in the Contract Price:

- 1. Diagnostic laptop, software and tools (if NOT selected on the Option Tracker) (Contractor to provide list and charges of each such item).
- 2. Spare Parts (Contractor to provide list) (if NOT selected on the Option Tracker).
- 3. Civil Design, Installation and Management of Charging Stations except as otherwise

## **ADDITIONAL TERMS AND CONDITIONS**

agreed in writing by Contractor.

4. Additional Driver, Maintenance and Repair and Parts Manuals.

### **III. PRE-PRODUCTION MEETING**

- a. The Parties acknowledge that a formal pre-production meeting will be held to review the technical specifications and related Agreement provisions and to discuss actual and potential open items.
- b. The Parties shall mutually agree upon a formal production schedule, which shall be automatically incorporated by reference into this Agreement.

### **IV. FINAL BUS DESIGN**

The Parties acknowledge that on December 15, 2022 the Contractor and Customer agreed on final bus option and design package, which will be used by Contractor's Engineering Department to design the Bus. Customer shall review the design and, once reasonably satisfied, approve the "Final Bus Design". Contractor commits to build the Bus to Final Bus Design and specifications, as defined in the following paragraph. Customer commits to accept Buses built in all material respects to Final Bus Design. If Customer, after agreeing to final bus design, makes material changes to Final Bus Design, Customer acknowledges that Contractor, in its sole discretion, retains recourse to pursue any of the following actions, as described in the "Change Orders and Specification Revisions" clause. Contractor shall solely determine whether changes are "material." Additionally, Customer agrees to inspect Buses solely with the "Final Bus Design" as the standard for inspection.

"Final Bus Design" is comprised of Contractor's Option Tracker and Customer's Technical Specification (if any such specification exists). Any changes to Customer's Technical Specification, agreed to by both Parties and incorporated into the "Final Bus Design," shall supersede the Technical Specification.

### **V. PRE-DELIVERY BUS TESTING AND BUS DELIVERY SCHEDULE**

- a. Contractor's pre-delivery tests of all Buses shall be performed at Contractor's facility and shall be witnessed by Customer's inspector(s). Customer shall confirm that each Bus conforms to the Final Bus Design, so long as Contractor has complied in all material respects with the Final Bus Design during the pre-delivery inspection and tests.
- b. Delivery location for the Buses is Santa Rosa, California.
- c. Hours of delivery shall be according to a mutually agreed upon schedule.
- d. Customer's final acceptance of each Bus may be preceded by a cursory inspection of each Bus to confirm that the delivered Bus(es) is/are the same Bus(es), in the same condition, and including the same configuration, as those inspected and tested during the pre-delivery inspection, and Customer may not apply any criteria for accepting delivery of the Bus(es) that are different from the criteria applied in any pre-delivery test/inspection. Delivery of Buses shall be determined by signed

## **ADDITIONAL TERMS AND CONDITIONS**

receipt of Customer's designated agent(s) in the form attached hereto as **Attachment 1**, at point of delivery. Contractor shall provide required documentation for registering the Bus in the State of California to Customer at the time of delivery. Notwithstanding the foregoing, nothing in this Section V (including any final acceptance of each Bus) and nothing in the State of California Contract shall alter or delay the payment terms and obligations contained in Section I above.

- e. Title and risk of loss to the Buses shall pass directly from Contractor to Customer upon delivery.

## **VI. REPAIR OF BUSES AFTER DELIVERY**

- a. After delivery of the Bus(es), Customer shall have twelve (12) calendar days to conduct reasonable tests on each Bus. In the event Customer discovers malfunctioning features, components, or systems, or other non-material issues with the Buses during such tests, Customer shall provide Contractor a reasonably detailed description of items to be corrected ("Repair List").
- b. After receipt of the Repair List, Contractor shall make commercially reasonable efforts to complete perfunctory repairs within fifteen (15) business days. In the event Contractor deems, in its sole discretion, that a repair will take longer than fifteen (15) business days, Contractor shall have such reasonable time as is necessary to complete the repair so long as Contractor commences to resolve the repair issue within such fifteen (15) business day period. Customer shall make the Bus available to complete repairs timely with Contractor repair schedule.
- c. Contractor shall provide all parts, tools, and labor required to complete the perfunctory repairs. Customer agrees that for the first thirty (30) day period following receipt of the Repair List, Contractor shall have the right to perform repairs at Customer's facilities, provided that following such thirty (30) day period, at Customer's option, Contractor may be required to remove the Bus from Customer's facilities to complete repairs.
- d. Upon completion of repairs for any Bus, Customer will conduct reasonable tests upon each repaired Bus pursuant to Section V.
- e. Acceptance of each Bus for the purpose of starting the applicable warranty periods, will occur upon the earliest occurrence of any of the following:
  - i. Customer's provision of a notice of Acceptance.
  - ii. Customer's failure to provide a Repair List within the prescribed period described in Section VI(a), in which case the Bus shall be deemed accepted.
  - iii. Placement of the Bus into service

## **VII. CHANGE ORDERS AND SPECIFICATION REVISIONS**

Contractor and Customer shall agree upon a configurations file, which shall be included as part

## ADDITIONAL TERMS AND CONDITIONS

of this Agreement. Unless there are changes mandated by applicable law, the Parties agree that no changes to the Final Bus Design can be made without a written mutually executed change order.

Any changes to the Final Bus Design must follow a strict change management process which includes pre-defined timelines that govern the reasonable time needed to properly design, validate, procure and deploy any Final Bus Design changes. For any and all changes requested by Customer after approval on the Final Bus Design, Contractor shall provide price and schedule adjustments (including adjustments to production build slot, shipping, and delivery) to account for the requested configurations and/or specifications changes. Contractor shall not be obligated to accommodate any requested changes until the parties mutually execute a Change Order covering all changes to the Final Bus Design, and associated price and schedule adjustments. Changes requested by Customer less than twenty-eight weeks from commencement of production (i.e., Station 1) of the first bus ("Late Changes") will not be able to be accommodated without additional charges to compensate Contractor for demobilization, remobilization, supply impacts, storage and handling costs, re-engineering costs, and other costs related to production changes. Any additional charges for Late Changes will be included in the relevant Change Order.

Customer acknowledges and agrees that any changes to fees, Late Change charges, change or delays to production schedule (including alternative build slots), shipment, or delivery, shall not be deemed a breach of this Agreement, affect or toll any warranties provided by Contractor, result in or cause any penalties, damages, claims or liabilities to Contractor, give Customer any termination right, affect or change payment terms (including any progress payments) and/or give Customer the right to reject any shipment or fail any inspection or acceptance test. In addition, notwithstanding anything to the contrary contained herein, Contractor may, in its sole and absolute discretion, utilize subcontractors to implement any mutually agreed upon changes.

### VIII. LIABILITY

In no event will Contractor be liable to Customer for any indirect, incidental, consequential, or punitive damages, or for loss of profits or revenue, whether in an action in contract, tort, strict liability, or otherwise. Contractor's cumulative liability under this Agreement will not exceed \$2 million, no matter the circumstances or cause of action or liability. This Section VIII shall survive termination or expiration of this Agreement.

### IX. DISPUTES

- a. General. Any dispute between the Contractor and Customer relating to the implementation or administration of this Agreement shall be resolved in accordance with this Section.
- b. Resolution. The Parties shall first attempt to resolve the dispute informally in meetings or communications among the Contractor's representative and Customer's representative. If the dispute remains unresolved fifteen (15) days after it first arises, the Contractor may request that Customer's representative issue a recommended decision on the matter in dispute. Customer's representative shall issue the recommended decision in writing and provide a copy to the Contractor. If Contractor does not, in its sole discretion, accept Customer's recommended decision and the dispute remains unresolved, either Party may seek



## ADDITIONAL TERMS AND CONDITIONS

resolution through non-binding mediation, and failing agreement after mediation, judicial resolution of the dispute in an appropriate court of the State of California.

### X. INTELLECTUAL PROPERTY & CONFIDENTIAL INFORMATION

- a. Intellectual Property. Customer and Contractor acknowledge that Customer is a transit agency and not a manufacturer of buses or charging stations and therefore has no interest in ownership of any rights in, to, or arising out of: (i) any patents; (ii) inventions, discoveries (whether patentable or not in any country), invention disclosures, improvements, trade secrets, proprietary information, know-how, technology, technical data and other intellectual property; (iii) copyrights, copyright registrations, mask works, mask work registrations, and applications therefor in the United States, and anywhere in the world, and all other rights corresponding thereto throughout the world; and (iv) any other proprietary rights ((i) through (iv) hereof collectively, the "Intellectual Property") in or to the technology associated with the charging stations and vehicles/buses that are the subject of this Agreement. As such, Customer and Contractor agree that Contractor shall own any Intellectual Property developed in connection with the Buses and any charging stations purchased through this Agreement, including, without limitation, any performance and other Bus and Charging Station data developed and any alterations or modifications to the charging stations or Buses purchased under this Agreement whether made or developed by Customer or any other party (the "Developed Technology"). Customer hereby assigns and agrees to assign to Contractor, all right, title and interest in the Developed Technology (including all intellectual property rights therein) and the Intellectual Property. Customer shall, to the fullest extent, protect proprietary information, trade secrets and confidential commercial and financial information provided by Contractor. Customer will provide immediate notice in writing to Contractor of the existence of any claim that the goods furnished hereunder violate or infringe upon another third party's rights, and Customer shall reasonably cooperate with Contractor in connection with any such claim. Customer also agrees that it shall not, and shall not allow any third party to, directly or indirectly reverse engineer the Bus or any charging station or otherwise obtain, share or use any confidential information of Contractor, including, without limitation, any control or other software of Contractor provided with either the Bus or any charging station.
- b. Confidential Information. During the performance under this Agreement, it may be necessary for either Party (the "Discloser") to make confidential information available to the other Party (the "Recipient"). The Recipient agrees to use all such information solely for the performance under this Agreement and to hold all such information in confidence and not to disclose the same to any third party without the prior written consent of the Discloser. Likewise, the Recipient agrees that information developed in connection with the performance of this Agreement shall be used solely for the performance under this Agreement, and shall be held in confidence not disclosed to any third party without the prior written consent of the Discloser. Customer shall employ sound business practices no less diligent than those used for Customer's own confidential information to protect the confidence of all licensed technology, software, documentation, drawings, schematics, manuals, data and other information and material provided by Contractor pursuant

## **ADDITIONAL TERMS AND CONDITIONS**

to this Agreement.

- c. Survival. This Section X shall survive termination or expiration of this Agreement.

### **XI. INDEMNIFICATION**

- a. Customer agrees that it shall be responsible for the negligent, willful and wrongful acts or omissions of its employees, officers, directors, agents and representatives. In addition, Customer agrees that it shall be responsible for any use of the goods or products either (a) in combination with apparatus, devices or other products/goods not supplied by Contractor, or (b) in a manner for which the goods or products were neither designated nor contemplated.
- b. Customer shall indemnify and save harmless Contractor, its officials and employees, from all losses, damages, costs, expenses, liability, claims, actions, and judgments of any kind brought or asserted against, or incurred by, Contractor, to the extent that the same arise out of or are caused by (a) any failure of Customer or its employees, officers or directors to comply with any material term of this Agreement, (b) any negligence, gross negligence or intentional or willful conduct or fraud of Customer or its employees, officers or directors, (c) any third party claim for personal injury, death, or tangible property damage or any other losses or damages sustained by any person or entity to the extent resulting from the gross negligence or intentional or willful conduct or fraud of Customer or its employees, officers or directors, and (d) any act or omission of Customer, or by the employees, officers or directors of Customer, but not to the extent arising out of or are caused by any act or omission of Contractor or its employees, officers, directors, agents or representatives.

**ADDITIONAL TERMS AND CONDITIONS**

Attachment 1

**Bus Delivery Acknowledgement**

**Property:** \_\_\_\_\_

**Proterra Bus ID:** \_\_\_\_\_

**Contract No.:** \_\_\_\_\_

**VIN:** \_\_\_\_\_

**Odometer Reading:** \_\_\_\_\_

**Bus Fleet Number:** \_\_\_\_\_

**Delivery Date:** \_\_\_\_\_

**I hereby acknowledge delivery of the unit listed above**

**Customer Name:** \_\_\_\_\_

**Customer Signature:** \_\_\_\_\_

**Date:** \_\_\_\_\_