

Request for Proposals

General Requirements and Technical Specifications for Battery Electric Cutaway and Narrow-Body Transit Vehicles and Multi-Year Options for Additional Buses

Issued: November 11, 2020

Due: December 15, 2020

By: Vermont Public Transportation Association

c/o Green Mountain Transit
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1.0 GENERAL TERMS

1. Introduction

The Vermont Public Transportation Association is a not-for profit association whose members include public transportation providers within the State of Vermont. Providers are engaged in the provision of general public and/or human service transportation. Providers may offer service directly and/or through agreements with other private and/or public entities.

This is a joint procurement conducted by the Vermont Public Transportation Association (VPTA) on behalf of its members, Advance Transit, Inc.; Green Mountain Transit (GMT); Southeast Vermont Transit (SEVT); Green Mountain Community Network (GMCN); Marble Valley Regional Transit District (MVRTD); Rural Community Transportation, Inc. (RCT); Special Services Transportation Agency (SSTA); and Tri-Valley Transit (TVT).

The current and future members of VPTA, and their respective successors, members and service area municipalities, and assignees, and any future entities operating transit service in their respective current or future service areas shall be allowed to purchase buses off the base and options pricing of the successful proposer. Additionally, any entity which receives funding through the State of Vermont's Agency of Transportation shall be allowed to purchase buses off the base and options pricing of the successful proposer. The entities authorized to purchase buses pursuant to this procurement, as described in the paragraph, are sometimes referred to individually as "Purchasers" or collectively as "Purchasing Group".

Each Purchaser that elects to purchase buses pursuant to this procurement will enter into contracts or purchase orders (sometimes referred to as the "Contract") directly with the successful proposer (sometimes referred to as the "Vendor" or "Contractor") on the terms and conditions contained in this RFP with the base and options pricing of the Contractor.

The Vermont Public Transportation Association is seeking proposals for the purchase of Battery Electric Cutaway Transit Buses and Battery Electric Narrow-Body Transit Vehicles with multi-year options for additional vehicles to meet the needs for such vehicles for a period up to three years. For the purposes of this procurement the VPTA has adopted Green Mountain Transit's procurement policy, which complies with FTA Circular 4220.1F (11/01/08 Rev. 4, March 18, 2013R), 49 C.F.R. 18, FTA Master Agreement (FY 2020), and 2 CFR Part 200.

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2. Procurement Schedule

November 11, 2020	RFP Issued
November 23, 2020	Deadline for Receipt of Approved Equals Request/Clarifications in Writing at VPTA
December 1, 2020	Approved Equal/Clarification Responses
December 15, 2020	Proposals Due
January 25, 2020	Anticipated Contract Award

VPTA reserves the right to revise or amend the specifications and general and specific conditions up to the time set for opening the proposals. Such revisions and amendments, if any, will be announced by addenda to this RFP. If the revisions require significant changes, the date set for opening proposals may, at VPTA's sole discretion, be postponed. The proposal opening will be at least five working days after the last addendum, and the addenda will include the new date, if applicable.

3. Submission of Questions/Requests for Approved Equals

Technical questions, questions about proposal requirements, and requests for additional information may be submitted via email to Matt Kimball, GMT Procurement Officer, at mkimball@ridegmt.com. No telephone contact is permitted during this procurement. Requests for Approved Equals must be made on the Approved Equal form included in Attachment 17 of the VPTA Special Contract Provisions. No other form will be accepted. All questions, clarifications, and approved equal requests must be received by **Monday, November 23, 2020**.

4. Submission of Proposals

Two paper copies and one electronic copy of sealed proposals (including scanned copies of any documents requiring signature of proposer) must be received by VPTA, c/o Green Mountain Transit (GMT) at its offices at 101 Queen City Park Road, Burlington, VT 05401, by **4:00PM on December 15, 2020**. Proposals received after the date and time specified above shall be considered late proposals and therefore, shall not be opened and/or considered for award.

Proposals should be submitted in a sealed envelope plainly marked on the outside:

VPTA RFP for Battery Electric Cutaway Transit Buses

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5. Estimated Quantities

5.a Cutaway Buses (Type A)

	FY21	FY22	FY23
Min	2	2	2
Max	4	4	4

- A. Contract Minimum: 2
- B. Contract Maximum: 12

5.b Narrow-Body Transit Vehicles (Type B)

	FY21	FY22	FY23
Min	1	2	2
Max	4	4	4

- C. Contract Minimum: 1
- D. Contract Maximum: 12

The above tables are provided based on estimated future replacements and for evaluation purposes. Only the minimum and maximum quantities shown above in Items A, B, C, or D shall be considered the minimum and maximum quantities under any contract. VPTA shall not be required or expected to purchase the quantities shown in any given fiscal year, nor should they be prevented from exceeding the maximum quantity shown in any given year, so long as they do not exceed the contract maximums shown in Items B and D.

The above contract minimum and maximum figures are based on the assumption of a split award scenario where each vehicle type is awarded to a different vendor. In the event that VPTA awards both sizes to a single vendor, the quantity of vehicles available on the contract (including both vehicle types) would be a minimum of 2 and a maximum of 12.

6. Price

The prices shall be quoted on the required form and shall include all vehicle delivery costs to any location requested within the State of Vermont.

Members of VPTA are generally exempt from payment of federal, state and local taxes, and taxes must not be included in proposed prices. Each Purchaser will furnish necessary exemption certificates to the Vendor prior to ordering vehicles.

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Proposers shall complete pricing forms for all vehicle types that will be included in their proposal. Proposers are not required to complete pricing forms for both vehicle types (Cutaway Bus and Narrow-Body Transit Vehicle), but are encouraged to do so if they are able to offer both vehicle types.

7. Required Proposal Contents

- A. Completion of Fixed Price Form(s) in Section III of the RFP. Prices shall be quoted on the required form and shall be inclusive of all costs, including titling, delivery and pre-delivery inspections.
- B. Complete bus build detail showing compliance with all areas of Section 2 "Technical Specifications". Proposals shall include, but are not limited to, the following: plan and elevation views, minimum and maximum passenger seating and wheelchair seating capacity, turning radius diagrams, external and internal dimension diagrams, underbody vertical clearance, seating chart layouts, description of bus structure, description of how vehicle weight is minimized, manufacturer detail for all major components, manufacturer's information on required lubrication and coolant, outline of how corrosion resistance requirements are met, description of accessibility to routinely serviced components, operating range and performance degradation information, complete system detail of the propulsion system and energy storage system, description of regenerative braking operation, detailed analysis of expected battery performance, complete description of on-board bus charging systems, charging times at various beginning State of Charge (SOC), compatible charger types, description of all warranties, information about offered training, etc.
- C. A list of all similar buses delivered by the Proposer in the last three (3) years. Proposal should contain the following information: model number, vehicle length, quantity, year of delivery, type of energy storage system, name and location of receiving transit property, name and phone number of contact person at receiving transit property.
- D. A list of any late delivery occurring in the last three (3) years including the number of buses and number of days late, the reasons for late delivery, and the name and phone number of the contact person at the receiving transit property.
- E. Description of any special equipment and tools required for maintenance of the vehicles which would not already be stocked by a bus maintenance facility. Items

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shall include, but are not limited to, personal protective equipment (PPE) and special tools required for servicing high-voltage components. An itemized list of special equipment and tools with pricing shall be provided with the Proposal. Pricing of special equipment and tools is also requested in Section 39.112 and 39.113 of the Technical Specifications.

- F. Description and mean repair time of routine maintenance activities including preventive maintenance (PM) inspections, brake relining, small component replacement, and any other frequent maintenance task.
- G. A description of Proposer's warranty and service offerings including the location(s) of technical service representatives near the VPTA service area with expertise related to the Propulsion System and Battery Management System of the proposed buses. The availability of technical service representatives as well as complete detail of the Proposer's warranty procedures and requirements shall be included in the Proposal.
- H. A description of Proposer's parts supply system including locations of parts warehouses, percentage of parts regularly stocked in the U.S., and average time from receipt of orders to shipment of orders.
- I. Documentation of the vehicle manufacturer's quality assurance and control plan.
- J. A proposed schedule of events from purchase order to delivery of buses.
- K. A copy of Altoona Test Report(s) for all buses proposed. If buses have not completed Altoona testing, documentation shall be provided which demonstrates how vehicles comply/will comply with FTA Bus Testing requirements, including, but not limited to, a schedule for when Altoona Test Report(s) will be provided.
- L. Identification of exceptions to any section of the RFP including explanation for the exception. If no exceptions are taken, this should be stated in the proposal.
- M. Proposal length is limited to 60 pages, single-spaced with standard margins and no less than 10-point font. Page limit does not include the copy of Altoona Testing Report(s), approved equal requests, signed certifications, warranty documentation, production and delivery schedule, cost proposal, and references.

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8. Proposal Evaluation Criteria

VPTA will evaluate proposals on the criteria outlined below. Separate evaluations will be conducted for Cutaway Buses and Narrow-Body Transit Vehicles.

a. Price 30%

Cutaway Vehicle (Type A) Evaluation: total cost of all estimated base buses--the 2 estimated minimum buses for FY 21 with standard floor plans, assuming (1) Size 1 Cutaway and (1) Size 2 Cutaway plus training required in addition to that supplied **will equal 20%**. Total cost of the maximum number of option buses (all buses other than the estimated minimum buses from Part 5 "Estimated Quantities" with standard floor plan) assuming (just for the evaluation basis) the same size, type and configuration of buses estimated in the base buses noted above, including fractional orders if necessary), **will equal 10%** based on average cost of option buses over the entire option period. Option bus price increases shall be quoted in terms of the PPI for Truck and Bus Bodies on Completed Chassis 1413-02 as available in a monthly PPI Detailed Report from the US Department of Labor (currently in table 6). Geographic area/location specific indexing will not be accepted.

Narrow-Body Vehicle (Type B) Evaluation: total cost of all estimated base buses--the 1 estimated minimum bus for FY 21 with standard floor plans, plus training required in addition to that supplied **will equal 20%**. Total cost of the maximum number of option buses (all buses other than the estimated minimum buses from Part 5 "Estimated Quantities" with standard floor plan) assuming (just for the evaluation basis) the same size, type and configuration of buses estimated in the base buses noted above, including fractional orders if necessary), **will equal 10%** based on average cost of option buses over the entire option period. Option bus price increases shall be quoted in terms of the PPI for Truck and Bus Bodies on Completed Chassis 1413-02 as available in a monthly PPI Detailed Report from the US Department of Labor (currently in table 6). Geographic area/location specific indexing will not be accepted.

All Evaluations: For costs, on both the base and option buses, the proposer with the lowest cost, as defined above, will receive the highest possible score in that category (base or option). Scores for other proposals will be calculated by applying the percentage difference between their costs and that of the lowest cost proposal to the scoring

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value of the lowest cost proposal. (VPTA will calculate price as indicated above based on pricing provided by proposers.)

- b. Reputation of proposer 30%
(Stability of ownership and history of providing transit vehicles)
- c. Reputation of buses proposed 20%
(Performance, Standardization, Structural Integrity and Corrosion Resistance, Vehicle Operating Range)
- d. Ability to meet specifications/contract documents/delivery dates 20%
(Proposer must request approved equals for any deviation from the specifications, all contract documents (General Terms, General Contract Provisions, and Special Contract Provisions) and state delivery date for initial buses as well as delivery dates for option buses in terms of number of days after receipt of order.

9. Single Proposal Response

If only one proposal is received in response to the Request for Proposals, detailed pricing analysis may be required of the single proposer. This analysis will likely include the proposer researching sales for similar vehicles by the manufacturer, provision of information of local dealers and purchasers of such vehicles. Direct access to the body and/or chassis manufacturer shall be arranged and provided to VPTA. By submitting a proposal, the proposer agrees to this potentially burdensome requirement.

10. Period of proposal validity

The proposed price will not change for a period of one-hundred twenty (120) days, beginning from the proposal opening, unless VPTA decides at its discretion to negotiate price.

11. Change Order Procedure (after award)

- a. Contractor Changes: Any proposed change in this Contract will be submitted, for approval, to the Purchaser.
- b. Written Change Orders: Oral change orders are not permitted. No change in this Contract shall be made unless the Purchaser gives prior written approval therefore. The Contractor will be liable for all costs resulting from, and/or for satisfactorily correcting, any specification changes not properly

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ordered by written modification to the Contract and signed by the Purchaser.

- c. **Change Order Procedure:** Within 15 days after receipt of the written change order to modify the Contract, the Contractor shall submit to the Purchaser a detailed price and schedule proposal for the vehicle to be delivered or work to be performed. This proposal will be accepted or modified by negotiations between the Contractor and the Purchaser. At that time a detailed modification shall be executed in writing by both parties. Disagreements that cannot be resolved within negotiations will be resolved in accordance with the Contract dispute resolution clause. Regardless of any disputes, the Contractor shall proceed with the delivery of the bus and the work ordered.

2.0 TECHNICAL SPECIFICATIONS AND REFERENCE

1. GENERAL

It is the intent of these Technical Specifications to describe the VPTA's requirements for the purchase and delivery of Battery Electric-powered Cutaway buses and Battery Electric-powered Narrow-Body Transit Vehicles for use in fixed route, paratransit, and on-demand operating environments.

Bidder shall submit documentation certifying that proposed vehicle meets all applicable FMVSS Regulations in effect on the date of manufacture. At a minimum the following standard shall be included in the certification:

FMVSS 207

FMVSS 210
FMVSS 208
FMVSS 209
FMVSS 302

Bidder shall submit with bid documentation compliance with 49 CFR 665, FTA Bus Testing regulation. Test results shall be submitted. Vehicle must be tested as 7 year/200,000 mile vehicle for Battery Electric Cutaway Buses (Type A) and 5 year/150,000 mile vehicle for Narrow-Body Transit Vehicles (Type B). A vehicle that has not been Altoona tested will not be entertained unless the Proposal contains a schedule for when the vehicle will complete Altoona testing and confirmation from the Proposer that a completed Altoona test report will be received by the Purchaser prior to delivery of the first vehicle. Preference will be given to proposed vehicles that have already completed Altoona testing at the time of proposal evaluation.

The Contractor shall comply with all applicable Federal, State and Local regulations. In the event of any conflict between the requirements of this specification and any applicable legal requirement, then the legal requirement shall prevail.

Note: Whenever a specific trade or product name is used within this specification, the following statement applies: "...or approved equal with essentially comparable standards of quality, design and performance." All requests for approved equals must be approved by VPTA prior to the bid opening. All requests for approved equals must be supported with detailed technical information.

2. CONFORMITY

- a. All bidders must conform to these specifications and the product they furnish shall be of first class quality and the workmanship shall be the best obtainable in various trades.
- b. The design of the body, chassis, and equipment the contractor proposes to furnish shall be of the latest design and model so as to produce a vehicle of substantial and durable construction in all respects.
- c. No advantage shall be taken by the contractor in the omission of any part or detail which is required to make the buses fully serviceable and durable operational vehicles in all respects even though such parts or detail are not mentioned in these specifications.
- d. All units or parts not specified shall be manufacturer's standard units. In all cases, material and dimensions must be furnished as specified, but if the term, "approved equal" is used, the VPTA's project manager must approve any materials, equipment, or dimensions substituted for those specified. Each request for an approved equal pertaining to a specified product requirement IN THESE Technical Specifications must be accompanied by a completed "Request for Approved Equal Form" (Attachment 17 of Special Contract Provisions) for each item request.

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- e. The vehicle and all related equipment provided under this Contract shall meet all applicable State and Federal laws, vehicle codes, regulations, and standards.
- f. Proposals shall clearly state which vehicles will require a CDL to operate. At minimum, Size 1 and 2 vehicles are NOT to require a CDL for operation.

3. RESPONSIBILITY

- a. The contractor shall assume responsibility for all design and satisfactory operation of the vehicle; furnishing and delivering all vehicles, material, and accessories whether or not the same are manufactured by the Contractor or purchased ready-made from an outside source.

4. MAINTAINABILITY

Prime consideration shall be given to the ease of maintaining the buses. Bus components and systems, both mechanical and electrical, that require periodic physical work or inspection processes shall be installed so that a minimum of time is consumed in gaining access to the critical areas. To the extent possible, disassembly of portions of the bus structure and equipment to gain access to these areas will be minimized. Each bus shall be designed to facilitate the disassembly, reassembly, servicing, or maintenance thereof by use of tools and items which are normally available as commercial standard items.

5. SERVICIBILITY

Each bus shall be designed and built with ease of service in mind. The front, full width hood shall open as a single panel and when in the open position shall be in front of the windshield to provide service access to the following systems and components:

Service check and the addition of brake hydraulic fluid, coolant and windshield washer fluid.

Components accessible for service shall include at a minimum the master wheelchair lift (if selected) circuit breaker, electronic control module windshield wiper motors, and the brake interlock assembly. The hood shall be latched by a primary cable release and a secondary hand release.

Electrical components which may require servicing or replacement shall be readily accessible through access panels or covers.

6. VEHICLE DESCRIPTION

6.1 GENERAL DESCRIPTION

- a. The vehicle shall be a “cutaway type” bus utilizing the most current model year cutaway chassis and be designed and constructed to ensure a minimum service life as established by the FTA (5 years/150,000 miles for Narrow-Body Transit Vehicles and 7 years/200,000 miles for Cutaway Buses) in daily or revenue service. All vehicles shall be capable of operating at least 28,000 miles annually, including the last year of service.
- b. Under normal operating service during the life of the bus, the basic structures shall withstand fatigue damage that is sufficient to cause Class 1 or Class 2 failures as defined by the Surface Transportation and Uniform Relocation Assistance Act (STURAA) of 1987. The structure shall also withstand impact and inertial loads due to normal street travel throughout the bus service life without permanent deformation or damage. The basic design shall incorporate all standard medium-duty bus features. All

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failures involving basic body, structure, axles and suspension are considered structurally related failures for purposes of this specification.

- c. The bus, at Gross Vehicle Weight Rating (GVWR) and under static conditions, shall not exhibit deformation or deflection that impairs operation of doors, windows or other mechanical elements. Static conditions include the vehicle at rest with any wheel or dual set of wheels in a six-inch deep hole or with any one tire or any dual set completely deflated.
- d. All failures involving basic body, structure, axles and suspension are considered structurally related failures for purposes of this specification.
- e. The bus shall be new and unused, of current production model, with the latest design features. The unit shall be delivered fully operational and ready for field use with all necessary maintenance equipment and accessories.

The bus shall, in all respects, be equipped to operate legally on VT State highways, night and day, and shall, in all respects, conform to State and Federal regulations pertaining to the equipment herein described. All parts of this vehicle shall conform with the provisions of the VT Code of Regulations, Title 13, Motor Carrier Safety Regulations and requirements under the Americans with Disabilities Act (ADA) Final Guidelines for Transportation Vehicles, 49CFR, Part 38, Subpart B in effect as of September 6, 1991 or as modified subsequently.

- g. Pedestrian Safety – Exterior protrusions greater than .50 inches and within 80 inches of the ground shall have a radius no less than the amount of the protrusion. The left and right side rear-view mirrors and required running lights and reflectors shall be exempt from the protrusion requirement. Grills, doors, bumpers and other features on the sides and rear of the buses shall be designed to minimize the ability of unauthorized riders to secure footholds, and handholds.

6.2 OVERALL PERFORMANCE

- a. The bus shall achieve normal operation in ambient temperature ranges of -10° F to 110° F, at relative humidity between 5% and 100%, and at altitudes up to 3,000 feet above sea level. Degradation of performance due to atmospheric conditions shall be minimized at temperatures below -10° F, above 110° F, or altitudes above 3,000 feet.
- b. Speed, gradeability, and acceleration performance requirements shall be met at, or corrected to, 77° F, 29.31 inches Hg, dry air. The interior climate control system shall perform in accordance with this Technical Specification.
- c. No electrical and electronic subsystem or 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.
- d. The bus-generated noise level experienced by a passenger at any seat location in the bus shall not exceed 83 dba and the operator shall not experience a noise level of more than 75 dba under the following test conditions. The bus shall be empty except for test personnel, not to exceed four persons, and the test equipment. All openings shall be closed and all accessories shall be operating during the test. The bus shall accelerate at full acceleration from a standstill to 35 mph on level commercial asphalt or concrete pavement in an area free of large reflecting surfaces within 50 feet of the bus path. During the test, the ambient noise level in the test area shall be at least 10 dba lower than the bus under test. Instrumentation and other general requirements shall conform to SAE Standard J3666. If the noise contains an audible discrete frequency a penalty of 5 dba shall be added to the sound level measured.

Airborne noise generated by the bus and measured from either side shall not exceed 83 dba under full power acceleration when operated at or below 35 mph at curb weight. All noise readings shall be taken 50 feet from and perpendicular to the centerline of the bus with all accessories operating. Instrumentation, test sites, and other general requirements shall be in accordance with SAE Standard J3666.

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- e. Each bus shall conform to the air pollution control standards of the U.S. Environmental Protection Agency (EPA) and all applicable state and local regulations at time of manufacturing.

6.3 DIMENSIONS

	Type A: Battery Electric Cutaway Bus (Size 1)	Type A: Battery Electric Cutaway Bus (Size 2)	Type B: Battery Electric Narrow-Body Transit Vehicle
Length, overall bumpers (minimum)	21'6"	23'	24.5"
Width, overall body (minimum) excluding fender flares	96"	96"	80"
Height, overall excluding roof vents	115"	115"	107"
Wheelbase (minimum)	158"	158"	148"
Height, floor at GVWR (Maximum)	28"	30"	28"
Height, first step at GVWR (Maximum)	10"	11"	10"
Height, Interior (minimum)	79"	80"	77"
Width, Interior @ seat cushion level	91"	91"	67.5"
Width, door – clear opening	26"	32"	26"
Height, door – clear opening	79½"	81"	79½"
GVWR (minimum)	12,500	14,500	10,360
GAWR, front (minimum) lbs	5,000	5,000	4,130
GAWR, rear (minimum) lbs	8,500	9,600	6,720
Turning radius (outside body corner) (maximum)	25'1"	27'4"	25'3"

6.4 CLEARANCES

- a. Ground – each bus shall have a minimum ground clearance of 7.25" at any position under the bus excluding axle zones.
- b. Angles – each bus shall have a minimum angle of approach of 21°, minimum angle of departure of 10°, and minimum breakover angle of 11° so they may safely negotiate varying driving conditions in their service area.

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6.5 VEHICLE WEIGHT

It shall be a design and engineering goal of these buses to be as light in weight as possible without any degradation of safety, appearance, comfort, and performance.

7. DRIVE TRAIN / UNDERCARRIAGE

7.1 AXLE REQUIREMENTS

- a. The front axle shall be manufactured and installed with proper wheel and axle geometry so that imperfect axle operation will not be encountered in service.
- b. The sum of the front and rear axle ratings shall equal or exceed the GVWR of the vehicle. The rear axle shall be single-speed type.

7.3 AXLE STOPS

Rubber axle stops shall be provided between the axle and the frame on each side of both axles to prevent axle and/or frame damage in severe bounce conditions.

7.4 SHOCK ABSORBERS

Shock absorbers suitable for the vehicle application, shall be installed and used in lieu of the shock absorbers provided by the chassis manufacturer.

7.5 BRAKES

The brakes shall be free of objectionable noise or squeal when applied. Brakes to have 4-wheel anti-lock system.

- a. The braking system provided shall minimally comply with FMVSS 105 and 106. It shall be a “dual” or “split” hydraulic braking system featuring; vacuum or hydraulic powered assistance, anti-lock braking (ABS) and disc-type brakes at both the front and rear axles. All brake friction material shall be “asbestos-free”.
- b. A “self-adjusting” parking brake system shall be provided. The parking brake system shall be applied with a foot pedal and a warning light located on the dashboard shall illuminate when the parking brake is applied. The parking brake friction material shall be “asbestos-free”.

7.5.1 REGENERATIVE BRAKING

The vehicle shall have a regenerative braking system to aid in the reduction of wear on the brakes and to help extend the range and efficiency of the vehicle through energy recapture. The vehicle will employ regenerative braking as the accelerator pedal is completely released. Regenerative braking shall be additionally increased as the brake pedal is applied.

Actuation of Anti-Lock Braking System (ABS) and / or Automatic Traction Control (ATC) shall override the operation of regenerative brake. A manual override switch shall be provided on the dashboard to allow the vehicle operator to disable regenerative braking.

The regenerative braking system shall include a means of maintaining dynamic braking (braking retardation) as the High Voltage Battery approaches 100% SOC, i.e., designed to prevent overcharging of the High Voltage Battery.

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7.6 TIRES

- a. Six steel belted radial tires designed for primary use on “highways” shall be provided with each bus. The tires shall be rated to meet or exceed the GVWR of the chassis and shall be designed for use on the steel wheels provided with each bus.
- b. All tires must be “dual-planed or dynamically” balanced and inflated for maximum GVWR rating prior to performing any road test.
- c. Tire shall meet or exceed manufacturer’s recommendation. Tires shall be less than one-year old from date of manufacture listed on the sidewall.

7.7 WHEELS

Six matching Original Equipment Manufacturer (OEM) steel wheels with a rated capacity that meets or exceeds the GVWR of the chassis shall be provided with each vehicle. The wheels shall be designed to mount and operate properly on a fully assembled bus without any type of interference and shall not negatively affect the handling or operation of the bus at any time. Wheels shall be painted white. Wheels and tires are to be interchangeable front and rear, tubeless type.

7.8 GROSS VEHICLE WEIGHT RATING (GVWR)

The chassis Gross Vehicle Weight Rating (GVWR) shall be a minimum of 12,500 for Type A Size 1 vehicle (Battery Electric Cutaway Bus), 14,500 for Type A Size 2 vehicle (Battery Electric Cutaway Bus), and 10,360 lbs for the Type B vehicle (Battery Electric Narrow-Body Transit Vehicle).

In no case shall the vehicle GVWR or the front or rear axle GAWR exceed the OEM chassis rating.

7.9 SUSPENSION

- a. The front suspension shall consist of coil-type springs rated equal to or exceeding the vehicle’s front GVWR.
- b. The rear suspension shall consist of two-stage, variable rate, and leaf-type springs rated equal to or exceeding the vehicle’s rear GVWR. The use of a spring leaf or comparable method may be utilized on the wheelchair lift side of the bus in order to maintain a level bus. In any case the method utilized to level the bus must be approved by the chassis manufacturer.
- c. Front and Rear stabilizer bars shall be provided.
- d. A certified weight slip shall be sent with the buses before leaving the plant. Buses may be weighed by the Purchaser upon arrival.

7.10 STEERING

Each bus shall be equipped with power-assisted steering installed by the chassis manufacturer. The steering column shall have a tilt feature.

7.11 PROPULSION SYSTEM

The vehicle shall be powered by a battery electric Propulsion System. The Propulsion System shall be specifically adapted for cutaway bus duty cycle that includes start and stop operation. In addition to power required for propulsion, sufficient excess power shall be available to operate all accessories at their normal operating condition throughout the cutaway bus duty cycle.

The Contractor shall assure that the vehicle structure can successfully accept the installation of the Propulsion System and be operated on the stated duty-cycle for a period of 7 years for the Cutaway (Type

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A) vehicle and 5 years for the Narrow-Body (Type B) vehicle without a structural failure. The Propulsion System shall be designed to require no major overhaul to achieve this lifetime. A major overhaul consists of the concurrent replacement, due to wear, of major components.

The Propulsion System shall comply with applicable local, state, and/or federal emissions and useful life requirements, as a zero emission vehicle. The Propulsion System shall be rated for the GVWR or greater of the vehicle.

The Propulsion System includes an electrical Energy Storage System (ESS), propulsion control system (PCS), power-conditioning components, drive train to the driving wheels, and an appropriately sized Traction Motor.

7.11.1 Propulsion Control System (PCS)

The Propulsion Control System (PCS) regulates energy flow throughout the system components in order to provide motive performance and accessory loads, as applicable, while maintaining critical system parameters (e.g., voltages, currents, temperature, etc.) within specified operating ranges. The PCS shall monitor and process inputs and execute outputs as appropriate to control the operation of all Propulsion System components.

The Traction Motor shall be equipped with an electronically controlled management system, compatible with **12-volt** power distribution. The Traction Motor control system shall be capable of transmitting and receiving electronic inputs and data from other drivetrain components and broadcasting that data to other vehicle systems. Communication between electronic drivetrain components and other vehicle systems shall be made using the communications networks.

The PCS shall have onboard diagnostic capabilities able to monitor vital Traction Motor functions, store and time stamp parameter conditions in memory, and communicate faults and vital conditions to service personnel. Diagnostic reader device connector ports, suitably protected against dirt and moisture, shall be provided in the operator's area. The onboard diagnostic system shall inform the operator via visual and/or audible alarms when out of parameter conditions exist for vital Propulsion System functions. The on-board diagnostic system shall have capabilities for storing hard and soft codes and processing data and provide detailed information/reports on various aspects of fleet usage. The information shall be retrievable via cabling or wireless transmission to a laptop.

The PCS shall protect the drive system against progressive damage. The PCS shall monitor conditions critical for safe operation and automatically de-rate power and/or speed and initiate motor shutdown as needed. The on-board diagnostic system shall trigger a visual and audible alarm to the operator when the PCS detects a malfunction and the Propulsion System protection system is activated.

Automatic shutdown shall only occur when parameters established for the functions below are exceeded:

- Over Temp
- Inverter Fault
- Over Voltage
- Broken Wire
- Loss of Electrical Communications
- Communications Safety
- No redundant vehicle manufacturer and/or component manufacturer "detection and shutdown" circuits. By default, the component manufacturer's software shall be used to record fault codes.

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A control shall be available to the operator to allow a 30-second override, which, when depressed, will allow the operator to delay the drive system shutdown but not the activation and alarm system.

7.12 TRANSMISSION

Vehicle may be proposed with or without a transmission. Demonstration of the benefits to the inclusion or absence of a transmission in the vehicle build must be definitively established in the Proposal. Transmission shall utilize synthetic transmission fluid as provided by transmission OEM.

Required Documentation

- Motor make and model
- Motor nominal voltage
- Motor cooling system description
- Motor peak and continuous rated speed (RPM)
- Motor peak and continuous rated torque
- Motor peak and continuous rated output power (kW)
- Motor fluid specifications (Oil, coolant)
- Motor mass
- Motor efficiency
- Transmission make and model
- Transmission gearing ratios
- Transmission fluid specifications
- Differential make and model
- Differential ratio
- Differential fluid specifications

7.13 DRIVE SHAFT

A drive shaft, if used, must comply with the following requirements:

- a. The drive shaft(s) shall be the largest available and be a minimum of 3 ½ inch diameter. The drive shaft shall be easily removed from the bus without the disassembly of the universal joints. Universal joints shall be equipped with lube fittings.
- b. Two drive shaft guards shall be installed to prevent contact with the undercarriage of the bus and the ground in the case of drive shaft universal joint failure.

7.15 ENERGY STORAGE SYSTEM (ESS)

An overview of the design and performance of the Energy Storage System (ESS) shall be provided to Procuring Agency. The ESS shall be capable of operating in the Procuring Agency's transit environment.

The ESS shall be designed, sized, and selected to ensure that the vehicle performance specifications, compatibility with EVSE, 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 types. The power source for the vehicle shall be derived from established battery technology that has a field-proven track record of safe, reliable, and durable operation in similar applications.

The ESS design, including containers, module bracing systems, thermal-management systems, battery management systems, watering/venting systems, interconnections, fusing, and traction-controller and battery charger interfaces should be completely described in the proposal.

The proposal shall include a detailed analysis of expected battery performance in the Design Operating Profile. The proposal should also include a comprehensive statement of the warranty terms relating to the

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battery, including explanation of all disclaimers within the warranty. The charge cycle and cycle life should be stated in the proposal.

The ESS shall be capable of withstanding the high current and voltage profiles necessary to accomplish daily recharge events without reducing the life of the High Voltage Battery. The Energy Storage System shall comply with UN/DOT 38.3 requirements for lithium batteries or similar standards for non-lithium batteries.

Design Operating Profile:

- 1,200ft elevation
- -11F outdoor dry bulb temperature
- 1" snow cover on roads
- Hilly terrain
- Drive cycles equivalent to the Altoona HD-UDDS and Orange County cycles, alternating.

7.15.1 ESS CHARGING REQUIREMENTS

The primary charging of the Energy Storage System shall be accomplished by conductive charging as needed to meet the required duty cycle. The battery charging energy shall be provided from a stationary EVSE via a mechanical or manual conductive interface, i.e., plug. Proposal should include a description of specific charging options and typical charging times. At a minimum, the vehicle shall be compatible with DC charging via CCS 2. Compatibility with AC charging shall also be provided as an option.

The Energy Storage System shall also make use of energy from regenerative braking.

The Contractor shall deliver the vehicle with an installed, fully-charged, functioning ESS. The High Voltage Battery shall be fully formed, installed and tested in accordance with the battery manufacturer's recommended practices.

7.15.2 ESS SAFETY

The High Voltage Battery shall be located outside the passenger compartment and in a position outside of a direct impact zone. Additionally, High Voltage Battery packs shall be load distributed within the vehicle to equalize weight between the wheels on the same axles and to achieve appropriate weight distribution between axles so as not to adversely affect handling of the vehicle.

The vehicle body shall be purpose-designed and constructed to ensure passengers and the operator will not be exposed to hazardous electrical current either in normal operation or in the event of a vehicle accident. System safety analysis and test data shall be provided to the Procuring Agency. The ESS shall be designed and built to prevent gassing or fumes from the High Voltage Battery from entering the interior of the vehicle, i.e., a vent path to the exterior.

The ESS and associated vehicle systems shall conform as applicable to:

- UNECE R100: Uniform provisions concerning the approval of vehicles with regard to specific requirements for the electric power train
- UN 38.3 Recommendations on the Transport of Dangerous Goods: Lithium Metal and Lithium Ion Batteries (or section of UN 38 appropriate for proposed battery chemistry)

Proposals shall include complete descriptions of all safety standards followed in the design and manufacture of the battery system, safety testing procedures used to validate the safety of battery operation in this application, and documented results of safety testing to confirm that standards have been met.

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7.15.3 BATTERY MANAGEMENT SYSTEM (BMS)

At a minimum, the battery management system (BMS) must perform the following functions:

- The BMS must be capable of monitoring the voltage level of individual cells within the High Voltage Battery. The BMS must be able to read and store individual battery or block voltages at a frequency of 1 data point per block every 15 seconds. The system must also monitor High Voltage Battery temperatures using no fewer than 2 thermocouples placed in and around each battery pack sampled at the same 4 samples per minute frequency.
- The BMS must be capable of communicating when a battery fault (as defined by the battery manufacturer) has occurred and must be able to identify and communicate the faulty battery in order to perform maintenance.
- The BMS must be capable of engaging prudent safety interlocks when an unsafe battery condition has been detected.
- The BMS must be able to monitor the battery state-of charge and update a gauge viewed by the operator at least once every 15 seconds.
- The BMS must be able to communicate all data to the vehicle level information system for storage and communication.

7.15.4 BATTERY THERMAL MANAGEMENT

Battery thermal management must be powered from an onboard source at all times. Thermal management must be continuously monitored with appropriate safety interlocks installed to react to adverse conditions as stated in SAE J1772.

High Voltage Battery temperatures must never exceed the manufacturer's recommended range during operation in the design operating profile and specified ambient conditions. High Voltage Battery cooling must be sufficient to prevent the temperature from exceeding the High Voltage Battery manufacturer's recommended maximum temperature when the ambient temperature is above 105 degrees F for a period of 16 hours of normal vehicle operation.

7.15.5 HIGH VOLTAGE BATTERY CYCLE AND SAFETY TESTING

Proposals shall include complete descriptions of all life-cycle testing procedures used to validate the life of High Voltage Battery used this application at the proposed charging rates, charge durations, and expected ambient temperatures and operating profiles. Proposers shall include documented results of life cycle testing. Proposers shall include certification of High Voltage Battery life cycle testing by independent testing agency.

7.15.6 BATTERY DEGRADATION

The Contractor shall provide a plan for replacing or reconditioning batteries if it has been determined that the batteries have degraded beyond their Warrantable End of Life (WEOL). The Contractor must clearly define WEOL and the method by which battery capacity is measured to determine WEOL. The Contractor must define the capacity to which the entire battery pack is restored such that it will remain above the WEOL for the remainder of the warranty.

The Contractor shall provide a plan for reuse or recycling of replaced battery cells and/or battery packs both during and after the warranty period. Plan shall conform with the requirements outlined in Section B "Energy Conservation" of the VPTA General Contract Provisions.

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7.15.7 EXTENDED RANGE OPTIONS

Proposals shall include options for vehicles with extended operating ranges beyond the base specification of the vehicle. Pricing for extended range options is requested in Sections 39.9-39.12 of the Optional Equipment List. Proposers shall show the anticipated operating range of each extended range option, which will be considered in the evaluation of the proposals.

7.15.8 REQUIRED ESS DOCUMENTATION

Proposals shall include the following documentation, at a minimum:

- Plan of vehicle layout showing location of battery pack(s)
- Battery Cell make and model
- Battery System mass
- Battery System certifications (SAE, ISO, UN)
- Energy capacity retention curves including state of charge and resting state of charge assumptions
- Nameplate system DC power capacity
- Nameplate system DC energy capacity
- Modules per rack
- Rack voltage
- Cells per module
- Module cell wiring (series/parallel configuration)
- Nameplate module capacity (Ah)
- Nominal module voltage
- Cell chemistry (e.g. NMC-811)
- Nameplate cell capacity (Ah)
- Nominal cell voltage
- Maximum charge rate
- Maximum discharge rate
- Battery Management System (BMS) Manufacturer/Model
- BMS location (e.g. module, rack.)
- Thermal operating ranges (Charge, discharge, storage)
- Type of thermal management (e.g. passive, forced air, liquid)
- Maximum heat rejection requirement
- Water and dust resistance (IP class)
- Routine battery state of health test procedure description
- Fire detection and suppression systems (describe sensors & controls)
- Decommissioning strategy

8. Electrical System

The vehicle shall be supplied with a 12-volt extreme duty electrical system, powered by a DC-DC converter. The electrical system shall be designed to provide and distribute 12-volt DC power to all low voltage electrical components in the bus. All add-on components must be “Plug and Play” to the wiring harness. All primary connectors must be color coded to ensure proper connection. All Primary connector circuit labels must be “hot-stamped” into the connector housing. Selection of components shall be made to maximize function in an environment characterized by high amperage draws. Electrical system shall comply with relevant sections of 49 CFR Part 393.

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8.1 LOW VOLTAGE WIRING AND HARNESES

All general purpose low voltage wiring shall be cross-linked polyolefin insulated, colored, numbered, and function coded every 6" for positive identification, and shall meet the requirements of SAE J1127 & J1128 and FMVSS 125. Wiring furnished shall be SAE approved GXL and SGX types. All wiring in each circuit shall be of sufficient size with the appropriate capacity rating to transmit the electrical current load of the circuit, taking into account the length of the circuit and the voltage drop occurring in the circuit.

Precautions shall be taken to avoid damage from heat, water, solvents, or chafing by proper routing, clamping, and the use of grommets or suitable elastomeric cushion materials. All low voltage wiring splices shall comply with SAE J163 and shall have insulators furnished at all points of wire connections.

All wiring shall and related devices shall be installed in a quality workmanship manner and shall be mechanically, electrically, and electronically secure. Wiring shall be color, number, and function coded for ease of identification and shall be continuously loomed. Wiring and terminals shall meet or exceed current federal and state vehicle requirements and be amply sized for both mechanical strength as well as to carry required currents without significant voltage drops. Wiring runs shall comply with the following requirements:

- No contact with sharp or puncturing edges
- No tension or strain between fixed points
- Minimum of five (5) inch clearance from any moving parts
- Adequately secured to prevent pinching
- Wiring shall be cut to length
- There shall be no exposed or loose wiring in the driver or passenger compartment

Wiring shall be routed in protective, harnesses (woven vinyl, corrugated vinyl, or nylon types are acceptable). Harnesses shall be designed to resist abrasion by the use of Packard Electric (**or approved equal**) flex-guard plastic loom. Harnesses shall be sectional terminating at insulated multi-pin quick disconnects or junction blocks. All electrical harness connectors shall be one-way, Amp (**or approved equal**) plug-in type connectors. All exterior electrical connectors shall be coated with di-electric spray to protect them from moisture and corrosion. Each harness shall provide a minimum of (1) spare conductor so marked. All wiring harnesses shall be function tested by a computer-controlled function tester prior to installation. Protective grommets shall be used wherever harnesses pass through metal structures to ensure the integrity of the harness and wiring. Snake bundles are not acceptable.

Wiring and harnesses – all general purpose wiring shall be cross-linked polyolefin insulated, colored, numbered and function coded for positive identification and meets the requirements of SAE recommended practice J1127 and J1128, types GXL and SGX. Precautions have been taken to avoid damage from heat, water, solvents or chafing by proper routing, clamping and the use of grommets or suitable elastomeric cushion materials. Harnesses are designed to resist abrasion by the use of Packard Electric flex-guard plastic loom (**or approved equal**). Harnesses are sectional terminating at insulated multi-pin quick disconnects or junction blocks. Each harness provides a minimum of one (1) spare conductor so marked. All wiring harnesses are function tested by a PC computer controlled function tester prior to installation.

All wiring in main wiring harness shall be mechanically crimped.

The main ground wire grounding the body to the chassis shall be a minimum six (6) gauge wire. All ground wires furnished for insulated-return type systems shall be equal in size to the feed wire in the respective circuit. Redundant grounds shall be used when necessary to attain satisfactory system performance. All serrated eyelets and screws or bolts utilized at grounding points shall be either coated or plated with an electrical conductive material to improve corrosion resistance. All connection points to the frame shall be sanded clean to a bare finish and shall be protected after the ground wire connectors have been attached.

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Grounding of components shall be through polarized, shielded terminals wired to main structural ground points. Grounding through hinged doors or covers of any type is not acceptable. Ground points shall be bolted to main structure free of paint, oil or rust and coated with silicone grease after fastening.

All terminals and connectors shall be designed and approved by the manufacturer for the heaviest-duty type automotive application and all materials shall be corrosion-resistant. Terminals shall incorporate a positive locking, seated type design to assure terminal position and prevent disconnects. Connectors shall incorporate a bolted or positive locking type design to assure connection position. Bulkhead connectors shall be of a sealed type design to prevent corrosion. To maximize system reliability, all electrical interfaces located in areas exposed to potential environmental damage shall be coated or plated with an electrical conductive type material to resist corrosion. Connectors shall be designed to withstand exposure to harsh conditions including extreme temperatures, moisture, and vehicle fluids. Where possible, Weather-Pak connectors or approved equal shall be used.

Primary distribution must contain (5) spare fuses to be used for add-on items rated at a max of 30 Amps. All relays except the 70 Amp primary feed must be removable. All connections to the distribution center must be Plug and Play Amp (**or approved equal**) connectors. All connectors on the distribution center must be clearly marked with circuit number and color-coded to ensure proper installation.

All electromagnetic type switches, relays, and solenoids shall be suppressed to protect the electrical system from major damage from any large negative voltage strike that may be produced by these devices. All circuits shall be individually protected from current overloading with overload protection devices appropriately sized for the circuits they serve. Circuit breakers shall be clearly identified. If used, fuses and fuse blocks shall be clearly identified and easily accessible from inside the vehicle. Fuses shall be placed in a single block and the fuse block shall contain holders for spare fuses of each type.

All accessories and electrical equipment, with the exception of head lights, tail lights, parking lights, emergency flasher, interior lights and lift shall be wired through the vehicle ignition switch so as to be operative only with switch in the ON or accessory position

An in-line circuit breaker of adequate capacity for circuit to wheelchair lift shall be provided in a readily accessible location.

Original manufacturer's vehicle wiring shall remain unchanged to the greatest extent practicable consistent with requirement of these specifications. A separate fuse panel for all add-on components located in an accessible area inside the vehicle shall be provided and shall be equipped with heavy-duty 12-volt DC relays, and 12-volt auto reset circuit breakers and blade type fuses, a complete circuit legend shall be incorporated into the panel.

A complete "as-built" manual including complete wiring diagrams shall be provided along with a Driver's Video.

Maximum radio suppression available from OEM shall be provided.

8.2 LOW VOLTAGE ELECTRICAL JUNCTION PANEL

Electrical panels installed by the body builders shall be located for easy access. Circuit breaker circuit protection shall be standard, but space type fuses may be used when expressly required by the component manufacturer. Two (2) spare electrical fuses that match fuses used on the bus body and chassis shall be supplied with the bus and stored in a box or spare circuit area at fuse box. All components shall be placed on the front of the electrical panel for ease of service. A heavy-duty power distribution panel shall be provided and shall be equipped with a heavy-duty 12-volt DC relays. All fuse and relay identification shall be incorporated within the electrical panel. The power distribution post must be directly tied to the distribution center for minimum heat build-up. All fuses must contain a red LED light to indicate when a fuse is non-functional. All relays must contain a yellow LED light to indicate when the relay is Active. The system must have a green LED light for OEM "excited" operation. Relays must contain a green LED

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for relay operation. Interior lights including any reading, dome, or destination sign must be relay operated to increase the dependability of the driver switches. Standard options must have “Add-on” printed circuit cards attached to the rear of the primary electrical junction panel that will include universal configuration for flasher, pull cords if chosen, and heater systems to ensure vehicle consistency. On-board buzzer must be utilized to allow all options to use a single component with availability of adding an additional auxiliary. All grounds must be single terminated to the primary electrical junction panel and cannot have multiple wires to the same input or output. All standard options must be easily reversible through the use of jumpers in order to add or remove additional options. Flasher must contain option for OEM and/or additional lighting. Pull Cords (if chosen) must contain single tone and dual tone chime.

8.3 DRIVER SWITCH PANEL

The driver switch panel shall be located to the right of the OEM instrument cluster for driver convenience. All panel switches and function lights must use the same cut-out within the panel to allow for changes in location. An A/C vent, at least 2.5” in diameter, shall be installed for driver use on the switch panel. The OEM cigarette lighter/power distribution plug must remain available to the driver. All driver switch labels must be located on the switch itself and include an LED backlight. Function lights must be “super bright” LED lights and operate anytime a switch is in operation. All add-on A/C systems must use the OEM rear A/C switch when available on the chassis.

Driver switch panel shall include a switch to deactivate the regenerative braking function of the vehicles. This switch shall be easily visible and accessible to the driver and clearly labeled. Procuring Agency shall have the option to remove this switch from the vehicle build.

8.4 LOW VOLTAGE ELECTRICAL CHARGING SYSTEM

The High Voltage System shall maintain the charge on the low voltage batteries via a DC-DC converter. The vehicle shall be equipped with a 150 AMP, 12 VDC DC-DC power converter, suitably rated to handle the electrical load requirements. Rated DC amps shall be achieved at the DC-DC power converter’s designed maximum temperature.

8.5 LOW VOLTAGE BATTERIES

- a. Low Voltage Battery shall be maintenance free 12-volt DC type Glass Mat Group 31 Top Post (3/8” stud w/stainless steel nuts). Battery shall have a minimum of 180 minutes Reserve Capacity.
- b. The positive and ground battery cables shall be continuous run without any splices.
- c. Batteries shall be mounted below the stepwell of the passenger entrance door in a 304 stainless steel enclosed battery compartment, restrained by a nylon strap and easily accessed via the removal of six screws. Battery compartment shall be completely sealed to keep out foreign material.

8.6 HIGH VOLTAGE ELECTRICAL SYSTEM

All high voltage components and wiring shall be clearly differentiated and appropriately labeled. The high voltage electrical system shall comply with UNECE R100.

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9. BUS BODY

9.1 BODY FRAME STRUCTURE

The body shall be designed using only prudent, proven engineering principles with all work performed only by professional established firms. The vehicle body shall incorporate a welded steel or aluminum body frame or shall be constructed to provide maximum protection to passengers in case of rollover accident or a crash accident to the side or rear of the bus. The inside and outside body panels should be fabricated of contoured steel, fiberglass, fiberglass reinforced plastic with resin-hardened honeycomb, or aluminum. The frame shall be attached to the understructure and securely attached to the chassis so that the entire vehicle will act as one unit without any movement at the joints. The entire unit shall be adequately reinforced with structural steel to carry the required loads and withstand road shocks. The body shall be securely fastened to the chassis frame structure using a method of uniform attachment consisting of strategically placed rubber isolators/cushions with connector bolts that permit body flexing independent of chassis flexing. The entire frame structure of bus body and attaching members shall have anti-corrosion product applied prior to mounting the bus body.

The bus purchased shall comply with all requirements applicable to the design and manufacture of motor vehicles. Body assembly must meet or exceed FMVSS 221.

9.2 BODY DESIGN

- a. The buses shall have a clean, smooth, sleek design, correctly proportioned and properly balanced. The exterior and body features, including chassis and body grills and louvers, shall be shaped to allow complete and easy cleaning by automatic bus washers without snagging washer brushes. Water and dirt shall not be retained in or on any body feature to freeze or bleed out onto the buses after leaving the washer. Body, windows and doors shall be sealed to prevent leaking of water, air or dust in routine service, or of cleaning liquids in automatic bus washers, for the life of the bus under normal use (normal wear and tear excluded). Accumulation of spray and splash on any window of the bus, generated by the bus wheels on a wet road, shall be minimized.
- b. Each bus shall be water-leak tested for minimum of 10 minutes in a water-spray booth specifically designed for such tests. Any leaks detected during the test are to be repaired immediately and extreme leaks shall require a second water-leak test to assure repairs were effective. Extreme leaks are defined as any leak that creates a stream of water that rapidly pools on the interior of the bus. During leak testing, particular attention is to be paid to windows, doors and seams. Leaks at the entry or wheelchair-lift doors or at window locations that egress back to the outside of the buses shall not be regarded as defects and shall not require repair.
- c. Any area where the bus body and roof are joined together shall be properly sealed and reinforced using a strong gasket material. Additionally, any opening made in either the body or roof of the bus to accommodate doors, windows, destination signs, etc. shall also be properly sealed and reinforced using a strong gasket material. All overlapping body seams, such as wheel chair roof cuts and roof extensions, shall be glued together using appropriate seam cement/body adhesive in addition to attaching hardware for attaching the main body.

9.3 BODY MATERIALS

Exterior body materials shall be fabricated of a composite material. This construction and these materials shall be designed to form a unibody design, reducing maintenance, extending durability, providing consistency of appearance throughout the life of the buses, and have a low sound and temperature absorption rate. Detailing shall be kept simple without exposed fasteners or protruding moldings. Add-on devices and trim shall be minimized and, where necessary, integrated into the basic design.

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9.4 FINISH AND COLOR

All exterior surfaces shall be smooth and free as possible of visible fasteners, wrinkles and dents. Since a commercial bus appearance is desired, an exposed, riveted-type body construction shall not be accepted. Both exterior and interior surfaces to be painted shall be properly cleaned and primed, as appropriate, for the paint being used. This cleaning process shall be done prior to the application of the paint to assure a proper bond between the base surface and successive coats of original paints. High-gloss, gel coat white paint shall be applied smoothly and evenly with the finished surface free as possible of dirt, runs, orange peel and other imperfections. All exterior finished surfaces shall be impervious to diesel fuel, gasoline and commercial applications of commonly used graffiti removing chemicals.

9.5 BODY PANEL ASSEMBLY

The sidewalls, rear crown wall, roof, and front roof crown shall be interlocked by resin saturated fiberglass matting and wood members, forming a unibody design without exposed fasteners or protruding moldings. Body assembly shall meet or exceed FMVSS 221 requirements.

9.6 INSULATION

Sides, roof, front, and rear crowns shall be insulated by dead air cells of the body assembly composite. The insulation shall provide an R-6 thermo-barrier and sound absorption. Insulation shall comply with all Federal requirements and shall pass the testing requirement specified in the Federal Transit Administration (FTA) Recommended Fire Safety Practices for Transit Bus and Van Materials Selection.

9.7 UNDERCOATING

- a. The entire underside of the body including floor members, side panels below floor level (if metal), and fender wells shall be undercoated, at the time of manufacture, with a nonflammable resin type polyoleim, Tectyl 121-BN **(or approved equal)**.
- b. The subfloor understructure shall be completely undercoated by hand brushing and 100% sealed from moisture penetration prior to being installed on steel frame understructure.

9.8 BUMPERS

Front bumper shall be chassis OEM, body contoured, reinforced with wrap-around ends. Front bumper shall be chrome plated, thick carbon steel with formed plastic ground effects trim. Rear bumper shall be contoured, reinforced "HELP" **(or approved equal)**, energy absorbing, and black polyurethane type.. Bumpers shall be attached to the chassis frame with .5" diameter grade-5 bolts.

9.9 WHEEL HOUSINGS

Wheel housings shall be fabricated from 14-gauge stainless steel. Housings shall be welded to the floor structure and properly sealed and undercoated.

9.10 SKIRTS, FENDERS, AND MUD FLAPS

Skirts shall be integral, full-length curved, reinforced fiberglass with replaceable contoured wheelwell fenders. Mud flaps shall be made of 3/16" thick rubber composite and installed behind the front and rear tires.

9.11 EXTERIOR MIRRORS

Each bus shall be equipped with a fully adjustable 9.5" x 8" rectangular mirror with a 4" x 7" convex adjustable diminishing mirror mounted below provide by Rosco **(or approved equal)**. Mirror is to be heated and have remote control. Mirror arms and mounting hardware to be stainless steel. Exterior mirrors shall meet the requirements of FMVSS 111.

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9.12 EXTERIOR LIGHTING

All exterior lighting shall conform to all state regulations and FMVSS 108 requirements. Dialight or approved equal LED type exterior lighting shall be provided.

9.12.1 HEADLAMPS

Headlamps shall be single, sealed beam automotive type with tilt-ray features controlled by a lever operated dimmer switch mounted on the steering column.

9.12.2 STOP, TAIL, DIRECTIONAL, CLEARANCE & BACK-UP LIGHTS

LED Stop and tail lights shall be red combination 4" round lens, vertically mounted on the rear crown corners. Back-up lights shall be grouped with and below the stop and tail lights. Front directional lights shall be body corner contoured and mounted horizontally with one (1) on each side. Identification and clearance lights shall be teardrop type and roof mounted consisting of five (5) amber at the front and seven (7) red rectangular lights at the rear. Front side marker lights shall be amber and incorporated with the parking lights. The rear side marker lights shall be red rectangular lights.

9.12.3 STEPWELL LIGHTS

White LED flush-mounted interior and exterior stepwell lights shall be suitably mounted so that the entire stepwell and a portion of the ground area outside the bus is sufficiently illuminated. The step lights shall be extinguished when the front door is closed.

9.12.4 FRONT AND SIDE REFLECTORS AND DIRECTIONAL LIGHTING

Front and side reflectors shall be incorporated with the parking lights. Rear, side reflectors and rear reflectors shall be mounted on the rear corners above the bumper.

Front directional lights shall be incorporated with the parking lights. Rear directional lights shall be amber in color and grouped with the stop, tail, and back-up lights.

10. INTERIOR

10.1 ENTRANCE STEPWELL

- a. Steps shall be formed and weld fabricated using minimum 14-gauge, 304 grade stainless steel powder coated using the five (5) step Interpon PZ770 process in a two-step design. Stepwell shall require no more than four (4) individual risers, including the first step up.
- b. Standard entry steps shall provide the following maximum dimensions:
 - Ground to first – 12"
 - Step risers – 8.5"
 - Step tread depth – 10"
- c. Step assembly shall be powder coated using the five (5) step Interpon PZ770 process, bright white in color and shall be undercoated on the underside.
- d. Steps shall be covered with .125" thick rubber flooring on all risers and sides, and 3/16" thick ribbed rubber step treads with yellow step nosing that is properly sealed.
- e. Side walls where lights are mounted shall be countersunk so that lighting assembly does not protrude into passenger entry.
- f. Entrance stepwell shall be located adjacent to the Driver's seat, such that the Driver does not need to look rearward to observe passengers boarding the bus. Passenger door and entrance stepwell shall not

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be located rearward of the Driver's area to accommodate a Co-Pilot seat. Floor plans which include a Co-Pilot seat will not be accepted.

10.2 BUS SUB FLOOR

- a. The floor structure shall be computer load tested to withstand 40,000 lbs with less than 1/16" of deflection at the perimeter. All surface irregularities shall be filled and subfloor sanded smoothly.
- b. Subfloor shall be .75", 7-ply marine grade fir plywood with a solid cross band that is pattern cut, edge sealed, and fastened with .25" diameter counter sunk Tek screws (**or approved equal**) that are predrilled and installed approximately every 10" throughout the entire floor structure. Raised (Flat) Floor throughout the interior of the vehicle with no protruding wheel wells. Raised Floor to extend fully to the stepwell with no angled steps and incorporated as additional step in stepwell. Flooring understructure and edges shall be completely undercoated by hand brushing and 100% sealed from moisture penetration prior to being installed on steel frame understructure.
- c. Sub-floor assembly shall be mounted to vehicle chassis via multi-point rubber isolators to minimize the road shock being absorbed by the vehicle body.

10.3 FLOOR COVERING

The floor covering shall be Altro Transflor or approved equal. The flooring shall have a non-skid-walking surface that remains effective in all weather conditions and complies with all ADA requirements. The floor covering, as well as transitions of flooring material to the main floor and to the stepwell area, shall be smooth and present no tripping hazards. The floor in the operator's compartment shall be easily cleaned and shall be arranged to minimize debris accumulation. Color shall be consistent throughout the floor covering.

- a. The driver's area shall be covered with sound deadening, non-skid floor mat
- b. Floor covering shall extend up the sidewall to form seamless cove molding and shall be held in place with aluminum strip.
- c. Flooring color shall harmonize with vehicle interior. White Standee Line shall be incorporated.
- d. Procuring Agency shall have option to select flooring color at the time of award.

10.4 INTERIOR PANELS

- a. The interior body panels including the wall and ceiling panels shall be highly durable bright white gel-coated fiberglass, resistant to vandalism and easy to clean.
- b. Smooth fiberglass reinforced plastic sidewall panels shall be installed from the seat rail to the ceiling body liner.
- c. A one-piece front ceiling closure of fiberglass reinforced plastic shall be installed. The panel shall allow accessibility for wiring harness connections, and optional driver storage, or front destination sign, and shall provide a bright, easy-to-maintain entryway ceiling.
- d. An entry door header panels shall be molded to fit the roof contour. An access cover with removable nylon drive rivets shall provide easy access to the door mechanism.

If provided, service access opening or doors in floor or interior shall be properly secured and sealed to prevent entry of fumes and water into the vehicle interior. Method of sealing shall permit removal and replacement of access doors without damage to sealing requirement.

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10.5 WINDOWS

- a. All windows shall meet all State and Federal Safety regulations. The windshield shall be AS-1; the driver's side and curbside windows, passenger door windows, lift door windows, and emergency exit door windows shall be AS-2; and the passenger windows shall be AS-3 in quality.
- b. The windshield shall be front body cab contoured single piece .25" thick tinted, laminated safety float glass. The windshield shall be bonded in place for a secure watertight seal.
- c. The driver's roadside window shall be standard OEM roll-up vertical glass design glazed with tinted .125" thick, tempered safety glass.
- d. Each driver curbside window shall be one-piece, minimum AS-2 rated safety glass. Divider or reinforcing mullions are not acceptable. Glazing shall be .125" thick and shall provide a minimum of 470 sq. inches of viewing. Window shall be frameless with an exterior rubber gasket and installed with Sikaflex 255FC adhesive (**or approved equal**) to minimize leakage. A minimum 1" black fritting shall be applied to the exterior perimeter of the window glass to provide additional glare reduction and to conceal the adhesive.
- e. Door windows shall be fully encapsulated. Windows shall be glazed with .125" thick, tinted, tempered safety glass that is FMVSS 217 certified. Full-length windows shall be provided in each passenger door panel and in the upper portion of the lift door panels in line with the passenger side windows.
- f. Passenger side windows shall be 41" tall x 29.5" wide, top T-slider ventilating style or 41" tall x 19" wide non-ventilating type as required by the floor plan design. Glazing shall be .125" thick Versalux[®] Grey (GL-20) with 31% light transmission (**or approved equal**). Window framing shall be black anodized aluminum with interior clamp ring attachment design. Windows shall be located in the sidewall to provide a minimum upper viewing height of 65" measured from the standard floor or 59" measured from the elevated (raised) floor. All passenger side windows shall meet FMVSS 217 requirements.
- g. Emergency exit windows shall be push-out type, designed to allow quick resetting by the vehicle operator. Emergency push-out instructions (as well as other printed instructions or directives) shall be furnished and installed at these windows. Emergency exit windows shall meet FMVSS 217. Operating handles shall be constructed from strong materials and designed to withstand abuse and repeated use for the life of the bus. A sufficient number of emergency exit windows shall be provided to support the seating capacity of the bus.

10.6 PASSENGER DOORS

- a. The passenger door shall be constructed of a minimum 12-gauge, 304-grade stainless steel with a two (2)-panel design located opposite of driver and manually controlled by the driver. This structure shall be powder coated using the five (5) step Interpon PZ770 process, in bright white to match vehicle exterior base color. Passenger door shall provide a minimum 32" x 79.5" clear opening for Size 1-5 vehicles. All doors shall be properly sealed to prevent entry of air drafts and water into vehicle interior including spray from commercial vehicle wash equipment and driven rain. All door frames shall be stainless steel.
- b. Vertical door shafts shall be an integral part of the door panels. The top portion of the shaft shall be designed to prevent the door panels from rotating out of alignment. Shafts shall pivot on a top mounted, bronze thrust bushing and a lower stud-mounted alignment pivot, accommodated with a glass filled molded bearing.
- c. Perimeter door edges shall be sealed with neoprene bulb seals. The center of the door assembly shall be equipped with overlapping neoprene 2" leading edge seals. Seals shall overlap front to rear to provide an air and watershed.
- d. Materials used for weather sealing shall be designed to withstand the following: varying temperature extremes (especially extreme cold conditions for long periods of time), road splash, road salts and

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other winter chemicals, and other exterior elements. Weather sealing materials used shall not crack, leak, loosen, or deteriorate for the life of the vehicle.

- e. The door panels shall be manually operated by the driver by actuation of a push/pull rod assembly with a two (2)-position arm located to the right of the driver.
- f. Passenger door shall have an emergency release mechanism to allow manual opening of the door in an emergency. Emergency release mechanism shall be prominently marked in both English and Spanish for ease of use by passengers.

10.7 WINDSHIELD WIPERS AND WASHERS

- a. Two heavy-duty electrical, three speed (intermittent, low, and high speeds) windshield wipers with variable speed control to allow timed intermittent windshield wiping.
- b. Arms shall be of single type, 19" long. Blades shall be 22" long and park at the lower edge of the windshield.
- c. The washer shall be powered by an electric pump with 3-quart washer reservoir and supply nozzles located on the lower windshield cowl.

10.8 DRIVER'S CONTROLS AND INSTRUMENTATION

The driver's area shall consist of an ergonomically designed molded dash console and molded driver's console complete with controls and instrumentation. All system control switches shall be labeled and illuminated. The instrument panel shall be equipped with speedometer, fuel gauge, engine oil pressure and coolant temperature gauge, voltmeter, tell-tale lights to indicate charge system, four-wheel rear anti-lock brakes, air bag, check engine, park brake, and high beam. A separate driver's area heater and air conditioning control panel shall also be provided.

All switches and controls shall be conveniently located in the driver's area and shall provide each of operation and be appropriately marked. There shall be no switches and controls located above the windshield or driver's door with the exception of the driver's courtesy lights

All switches and controls necessary for the operation of the vehicle shall be rocker type, backlit, appropriately marked and conveniently located in the driver's area.

10.9 DRIVER'S SEAT

The driver's seat shall be Freedman (**or approved equal**) High-Back with a tilting back, 6" fore and aft adjustment and adjustable lumbar support and arm rest. It shall be mounted to the OEM chassis base and incorporate the seat belt pre-tensioning device. Driver's seat is to be covered with the same upholstery as the passenger seats.

10.10 PASSENGER SEATING

Passenger seating shall be Freedman Featherweight (**or approved equal**) Mid-Back Seat that meets all applicable federal motor vehicle safety standards for strength and safety including 210 for seat belts. Features include:

- Ultra-thin *Knee-Saver* type backrest for added hip-to-knee room and lumbar support
- Molded polyurethane seat and back cushions for comfort and long lasting support
- 17 ½" wide seat cushions
- 22 ½" back height off the seat cushion, 37" off the floor
- Wire mesh-grid seat springs for even support

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All seats shall be floor and side wall track mounted for ease of seat removal. Where exposed, the track shall be covered with a vinyl track plug strip. The seat-tracking system shall be incorporated into the bus to provide secure seat anchorage, to improve the floor-to-body securement, and to provide additional side crash barrier around the perimeter of the body structure. Seating layout and floor plan are to be decided at pre-production meeting.

Seat Dimensions are:

Seat width per person (minimum).....	17.5"
Seat depth (minimum).....	17"
Seatback (maximum).....	19"

(25" maximum as measured from top of seat bottom to the top of the seat back)

Front of bottom cushion shall be rolled. Foam shall be contoured, dense, transit grade polyurethane with a minimum thickness of 1.5".

All metal surfaces shall be chemically cleaned, iron phosphated, painted and baked to provide rugged, long lasting, rust resistant surface.

Each seat position shall be equipped with retractable passenger restraint belts. Seatbelts shall be bolted through the floor, independent of seat or bolted to seat frame. All seats must be forward-facing. Folding seats must be at wheel chair locations and one more folding seat in front of last wheel chair location.

Padded anti-vandal grab handles shall be installed on all aisle seats. U.S. arm rests shall be provided on all aisle seats. Seat upholstery to be Level 5 Tower fabric (**or approved equal**).

Heating layout plan(s) shall be submitted and subject to approval by the Purchaser.

Passenger seats shall be installed on a track system to permit convenient removal and rearrangement. Aisle seats shall be equipped with retractable, U.S. arm rests.

On buses with a standard floor in lieu of raised floor, passenger seating configuration shall be designed so that protruding rear wheel wells are positioned underneath seats as much as possible to minimize impact to passenger leg room.

10.11 COURTESY LIGHTS-LED

Interior courtesy lights shall be located in the ceiling cove as LED light fixtures and mounted as a minimum three (3) on each side to provide passenger compartment lighting. A single driver's light fixture shall be provided with a separate control.

10.12 INTERIOR MIRRORS

Each bus shall be with one 6" x 9" adjustable convex interior passenger viewing mirror shall be provided and mounted in such a way to allow the driver to easily view passenger activity in the vehicle from the driver's seat.

10.13 PASSENGER ASSISTS

- a. Assist rails mounted on both sides of entry door shall be textured, non-slip, 1 1/4" diameter, 11-gauge, yellow powder-coated stainless steel tubing.
- b. Stanchion at entry and behind driver compartment shall be 1 1/4" diameter, 11-gauge stainless steel tubing with brushed finish. Rear stanchions and all optional handrails shall be 1 1/4" diameter, 16-gauge stainless steel tubing with brushed finish. Stanchions shall meet all applicable ADA requirements.
- c. Dual overhead handrails attached horizontally to the roof structure must be provided.

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10.14 MODESTY PANELS AND DRIVER'S BARRIER

A modesty panel assembly shall be installed behind the entry door stepwell. The modesty panel shall be 5/8" particle board with 1/16" laminate on both sides.

10.15 ROOF HATCH

Vehicles shall be equipped with one Transpec 1900 roof ventilation/escape hatch (**or approved equal**) centered in vehicle roof over the rear axle. Roof ventilation/escape hatch features shall include ventilation, rubber gasket to prevent leaks and emergency exit capability.

10.16 LIFT STANCHION AND PANEL

A stanchion and full height 3/8" Lexan panel (or approved equal) shall be provided between the lift mechanism and the passenger seats. Lexan must extend as close to the sidewall as possible to keep passengers from coming into contact with the lift mechanism.

10.17 REAR EMERGENCY EXIT DOOR (TYPE A VEHICLE ONLY)

- a. Buses shall be equipped with an emergency exit door located at the rear of the bus centered at the aisle. The exit door shall be constructed of fiberglass or aluminum and the door frame, including hinges and hardware, shall be constructed of minimum 12-gauge, 304-grade stainless steel.
- b. Exit door shall have a minimum dimension of 32" x 54".
- c. Emergency exit door shall comply with applicable sections of 49 CFR 571.217 and FMVSS 217.
- d. Emergency exit door shall be equipped with one (1) window. Window shall be fully encapsulated and sealed to prevent entry of water. Window shall be glazed with .125" thick, tinted, tempered safety glass that is FMVSS 217 certified.
- e. Emergency exit door shall be equipped with an exterior locking handle, red indicator light, and door ajar buzzer. Interior operating handle shall be constructed from strong materials and designed to withstand abuse and repeated use for the life of the bus.
- f. Emergency push-out instructions (as well as other printed instructions or directives) shall be furnished and installed at the exit door.

Purchaser shall have the option to delete emergency exit door from the configuration.

11. CLIMATE CONTROL

11.1 DRIVER'S HVAC

Driver's area shall be heated and cooled by a chassis OEM forced air distribution system. The heater and defroster shall provide 26,000 BTU with 155 CFM air flow. The driver's air conditioning shall provide 11,000 BTU with 230 CFM. Both heat and cool shall be controlled by dash mounted controls. The system shall have 4-speed fans with fresh air mode. Windshield airflow shall be through molded dash air ducts providing constant and even air diffusion.

11.2 PASSENGER COMPARTMENT HVAC

The passenger compartment shall be heated and cooled by a combined heating and air conditioning system as described below.

11.2.1 Passenger Compartment Heating

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On-board heating system shall be capable of keeping the passenger seating area at 70°F during outdoor temperatures of -20°F with the doors closed. Heating units shall be appropriately placed to maintain consistent temperature across the entire passenger seating area. A thermostatic control switch shall be provided for the on-board HVAC system in the Driver's controls. Each heater assembly shall have brass and/or stainless steel manual shut-off valves, including rear auxiliary heaters and stepwell heaters (if used).

11.2.2 Passenger Compartment Air Conditioning

On-board air conditioning system shall be capable of keeping the passenger seating area at 65°F during outdoor temperatures of 90°F with the doors closed and full seated occupancy. Refrigerant type shall be R134A (or approved equal). Refrigerant hoses shall be double braided Freon type.

11.2.3 HVAC Line Requirements

All refrigeration and heater lines that enter the passenger compartment shall be encased in a rigid material (fiberglass, aluminum, etc.) that harmonizes with interior to prevent injury to passengers in the event of line eruption. All air conditioning and heater hoses and wires that pass within twelve (12) inches of exhaust system shall be shielded in a manner to prevent heat damage to them.

11.3 AUXILIARY DIESEL-FUELED HEATER

Vehicles shall be equipped with a diesel-fired auxiliary heater with a capacity that meets the requirements of 11.3.1 below. Auxiliary heater shall be capable of maintaining cabin temperatures outlined in Section 11.2.1 above.

Procuring Agency shall have the option of removing the auxiliary heater from the build to create a zero emission vehicle. Procuring Agency shall also have the option to specify fuel sources other than diesel for the auxiliary heater.

11.3.1 AUXILIARY HEATER FUEL TANK

Heating fuel tank capacity shall be sufficient to allow for 12 hours of continuous operation of heating system at the system's rated BTU output capacity. The fuel tank must be fully compliant with California Air Resources Board standards and must not be modified in any way.

12. WHEELCHAIR LIFT

12.1 WHEELCHAIR LIFT REQUIREMENTS

Wheelchair Lift shall be a Braun Century NCL2 Series lift, or approved equal, located toward the front of the vehicle behind the passenger entry door. The wheelchair lift shall be compliant with Federal Motor Vehicle Safety Standard 403 for platform lift systems for motor vehicles. The lift shall have been tested to a minimum static load of 2400 lbs. The lift shall have 800 lbs rated lifting capacity. The base plate shall be a corrugated designed member to provide rigidity to minimize lift deflection when placed under load.

The power supply shall be a 12-volt electro-hydraulic system operating two single-acting cylinders. The hydraulic power pack system shall be of modular design allowing for easy removal and field replacement, if needed. The operation of the unit shall provide a smooth, jerk-free ride in both up and down directions. The power operation of the hydraulic cylinders shall be of a pull-type design for smooth lifting operation and improved synchronous arm movement. The pivot pins in the trunion (knuckle) of the pivot arms shall be of stationary design.

The hydraulic system shall be regulated by two separate relief valves, one of which is designed to prevent accidental stowing when occupied. The hand control for lift operation shall be of a one-hand operation

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design made of durable plastic. The hand control will provide user with illuminated functions. The hand control cable shall be coiled with quick-change connections for ease of maintenance or field change.

A manual back-up system shall be provided to ensure operation of the lift in case of electrical failure. The backup system shall provide a reliable means of manually raising and lowering the lift while occupied. The back-up system shall fold and unfold the platform. The back-up pump shall be integrated with the hydraulic power pack system such that no hydraulic lines or fittings are required. The platform shall be of steel construction and the surface shall be of see-through grating allowing for improved visibility and safer use in inclement weather. The platform shall have a minimum usable wheelchair passageway width of 33 inches and a minimum usable length of 51 inches requiring a 57-inch vertical clear door opening. The sides of the platform shall be a minimum of 2-1/2 inches high.

The platform shall be automatically folded and unfolded and fully automatic in operation. The platform shall allow both inboard and outboard facing of wheelchair and mobility aid users. The platform entrance ramp shall be extruded aluminum for weight savings, have a rubber leading edge and raised ribs for traction. The outer barrier must not raise if occupied with 25 lbs. The outer barrier shall be the sole outboard wheelchair retention device and shall be interlocked and comply with the FMVSS 403 requirements. Dual handrails shall be provided to add security and convenience. These handrails shall be 1-1/4 inch minimum diameter, minimum 30 inches in height, minimum of 8 inches in length, and withstand a 100 lb force in any direction (including vertical) without permanent deformation. The lift must have a fail-safe system to prevent stowing if solenoid welds. The platform shall have “built in” lighting to meet 404 platform lighting requirements with no auxiliary lighting.

All lift components shall be finished with a baked-on powder coating, which will meet a salt spray test of 1000 hours, to provide corrosion resistance and a long service life.

12.2 WHEELCHAIR SECUREMENT SYSTEM

Securement devices and their attachments shall restrain a force in the forward longitudinal direction of up to 2,500 lbs per securement leg or clamping mechanism and minimum of 5,000 lbs for each mobility aid. The securement system shall be located as near to the accessible entrance as practicable and shall have a clear floor area of 30” by 48”. Forward facing three step fold-away seats shall be installed in the securement area but shall not obstruct the clear floor area. Wheelchair securement system shall be Q-Straint Q-8100-A1-SC Deluxe (**or approved equal**) to secure wheelchairs facing forward and must fully comply with the Americans with Disabilities Act (ADA) requirements. Wheelchair tie-down and occupant restraint shall consist of four automatic retractors with J-hook per securement area with a separate lap restraint belt for the occupant. Self-tensioning belts are to be interchangeable. Floor anchorage points shall be all Q-Straint Slide ‘n Click (**or approved equal**). Anchorage points shall be secured in accordance with California Highway Patrol Regulation Title V – Register 77, Number 22 5-8-77. Means shall be provided to safely and securely store tie-down straps when not in use.

12.3 INTERLOCK

An interlock system which complies with Americans with Disabilities Act (ADA) standards shall be provided. Wheelchair lift controls shall be interlocked with the vehicle brakes, transmission, door, or other appropriate mechanisms to ensure that the vehicle cannot be moved when the lift is not stowed and so that the lift cannot be deployed unless the interlock is engaged. Interlock shall comply with 49 CFR Part 38.23.

A panel door switch controlling the lift system shall be provided to interlock the lift doors. The system shall require the vehicle to be immobilized and the parking brake engaged before the lift can be operated.

12.4 WHEELCHAIR LIFT LIGHTS AND SIGNAGE

Interior and exterior LED lift lights as well as ADA decals shall be provided. Wheelchair lift doors will be illuminated by an interior LED light mounted above wheelchair lift doors and an exterior LED light mounted below wheelchair lift doors that will be controlled by the lift door switch.

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13. PASSENGER STOP REQUEST

Pull cords must be provided for ambulatory passengers and touch tape for wheelchairs. Flush-mounted stop request sign must be installed. Stop request warning light shall be in plain view of the driver. Reset switch shall be placed in an easily accessible location for the driver. Pull cords shall be yellow in color.

14. PUBLIC ADDRESS

A Public Address system and hand-held microphone must be provided. Exterior speaker with switch must be installed.

15. DESTINATION SIGNS

Twin Vision Mobile Lite LED front and side destination signs (**or approved equal**) with Operator Display Keyboard (ODK) must be provided. Program software and memory transfer unit must be included. Signs are to be programmed prior to delivery to the Purchaser. Units must be accessible by drivers to safely change signage as needed.

16. SAFETY EQUIPMENT

- a. One five-pound ABC Fire extinguisher shall be provided.
- b. One three-piece warning triangle flare kit conforming to FMVSS 125 shall be provided.
- c. One First Aid Kit, 16-unit content minimum, shall be provided.
- d. Vehicle back-up alarm must be provided.
- e. Two (2) rubber chock blocks shall be provided.
- f. One (1) body fluid cleanup kit (Shall comply with 29 CFR Part 1910.1030)

17. STANCHIONS AND GRAB RAILS

All stanchions and grab rails shall be 1¼" stainless steel or stainless steel clad tubing. Vertical stanchions shall be secured top and bottom with barrel bolts to prevent twisting. All stanchions shall be mounted floor to ceiling in structural member.

There shall be a vertical stanchion and modesty panel located at the rear of the entrance door. Provisions shall be made for grab rails at both sides of the door within easy reach from the ground to assist passengers in both boarding and exiting. Grab rails shall be mounted to stanchions and sidewalls.

Vertical and horizontal stanchions shall be provided behind the driver's seat. A clear Lexan panel shall be installed filling the area between the horizontal stanchion and wall and grab rails to ceiling.

18. BODY AND ROOF

Body Frame Structure must meet all FMVSS requirements and comply with Section 9.1 above.

Body Panel Assembly - The side walls, rear crown wall, roof, and front roof crown are interlocked by resin saturated fiberglass matting and wood members, forming a unibody design without exposed fasteners or protruding moldings. Body assembly shall meet or exceed FMVSS 221.

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Body panel materials must meet all FMVSS requirements and shall comply with Section 9 above. Final surface of body structure is a minimum 3/32" thickness of resin hardened fiberglass reinforced plastic. Placement and installation of the windows shall not diminish the structural integrity of the vehicle. Structural reinforcement shall be added to compensate for the reduced structural rigidity. All windows, including emergency exit window, shall comply with FMVSS 217. In addition, interface of wall and roof to window ladder assembly surfaces shall include a high contact adhesive, Sikaflex 255(**or approved equal**) to provide a 100% bonding and sealing at these locations. Roof gutters shall be installed over the windows and doors.

19. ACCESSORIES

19.1 GENERAL ACCESSORIES

- a. Driver's sun visor shall be installed.
- b. Front and rear mud flaps shall be installed. Rear mud flaps shall fully cover width of rear tires.
- c. A three triangle reflector kit shall be provided and securely mounted in an easily accessible location to the driver.
- d. All brackets and fasteners for attaching front and rear license plates to the vehicle shall be provided.
- e. Each vehicle shall contain a complete ADA signage package. Each vehicle shall be equipped with a Tie Tech, Inc. safe-cut webbing cutter (**or approved equal**) and Evac-Aid evacuation blanket (**or approved equal**), securely mounted in a location easily accessible to the driver.
- f. Each vehicle shall have a front-mounted Sportworks stainless steel 2-position foldable bike rack (**or approved equal**).
- g. Volt dash mounted accessory plug shall be provided.
- h. Dual horns shall be provided.
- i. All brackets and fasteners for attaching front and rear license plates to the vehicle shall be provided.

19.2 MOBILE COMMUNICATIONS SYSTEM

A Kenwood NX 800 HK 45-Watt UHF or approved equal two-way radio system shall be installed on all buses. Two-way radio shall include a roof-mounted GPS antenna with ground plate, RG58 coax, and Spireon FleetLocate GPS tracking system.

19.3 SECURITY AND SURVEILLANCE SYSTEM

Video surveillance shall be Seon TH-4 (**or approved equal**) with 500GB storage and four (4) analog IR color cameras. Management viewing software shall be provided. Camera mounting positions to be determined by the Purchaser.

19.4 SAMSUNG GALAXY TABLET MOUNT AND POWER SUPPLY (OPTIONAL)

As an option, Manufacturer shall provide and install a mounted cradle and power supply for Samsung Galaxy tablets in use by the Purchasing Group. The cradle and power assembly shall be mounted to the backside of the frame assembly for the passenger door operator. Electrical wiring shall run along the back of the frame assembly to the nearest available electrical source behind the dash or interior wall of the bus. The tablet mount and power supply shall consist of the following components:

- a. RAM-HOL-TABL24U - RAM Tab-Lock Locking cradle for 8" tablets including Samsung Galaxy Tab 4 (**or approved equal**).

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- b. RAM-B-101U-C - RAM Long Length B size 1” Double Socket Arm Mount with two 2.5” diameter round plates **(or approved equal)**.
- c. RAMP-KNOB3LSU RAM Locking Knob with Brass ¼” 20 thread and steel insert for 1” socket arms **(or approved equal)**.
- d. Visions USB Hardwire Charger Power Port 2 Amps (10 watts) Wire Harness **(or approved equal)**.
- e. UniqueUSBFlash.com UUF-SS001-47-R Samsung Galaxy Tab 4 right angle 47-inch length charging cable **(or approved equal)**.

Provisions for the tablet mount and power supply are not to be included in base bus configuration. Purchaser shall have the ability to add this option and the total price (including installation) is requested in Section 39.106. Samsung Galaxy tablets are not included with this option.

20. Quality Assurance and Delivery

The Contractor shall assume all responsibility for maintaining quality of all components and equipment supplied on these vehicles.

The Purchaser’s representatives shall have the right to inspect the vehicles during production and final assembly, prior to delivery.

The Purchaser will carry out a thorough inspection upon delivery prior to acceptance of the vehicles and may refuse delivery should defects be found.

The Purchaser will conduct a water leak test on all windows and doors, both OEM and those altered or placed on the vehicle during conversion.

Contractor shall include as part of the bid a detailed description of the warranty provision covering the proposed vehicle and necessary equipment. The location of the provider of warranty repairs shall be listed for each warranted item.

If warranty repair is necessary, the contractor must pick up the vehicle and deliver it when the work is complete.

21. Warranty

Warranty shall be as follows (minimum):

21.1 WARRANTY REQUIREMENTS FOR TYPE A VEHICLES (BATTERY ELECTRIC CUTAWAY BUS)

Complete Bus.....	1 Year/50,000 Miles
Chassis -Bumper-to-Bumper.....	3 Year/36,000 Miles
Safety Restraint.....	7 Year/Unlimited Miles
Corrosion Perforation.....	7 Year/Unlimited Miles
Propulsion System.....	5 Year/150,000 Miles
Energy Storage System.....	7 Year/Unlimited Miles
Wheelchair Lift.....	1 Year/50,000 Miles

21.1.1 BODY

Base Warranty.....	2 year/Unlimited Miles
Body Structure.....	6 Year/250,000 Miles
Floor Structure.....	8 Year/400,000 Miles

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21.1.2 CLIMATE CONTROL

HVAC..... 2 Year/Unlimited Miles
Auxiliary Heater..... 2 Year/Unlimited Miles

21.1.3 SEATING

Frames and Foam.....5 Year Unlimited Miles

21.2 WARRANTY REQUIREMENTS FOR TYPE B VEHICLES (BATTERY ELECTRIC NARROW-BODY VEHICLE)

Complete Bus..... 1 Year/50,000 Miles
Chassis -Bumper-to-Bumper..... 3 Year/36,000 Miles
Safety Restraint.....5 Year/Unlimited Miles
Corrosion Perforation..... 5 Year/Unlimited Miles
Propulsion System..... 5 Year/150,000 Miles
Energy Storage System..... 5 Year/Unlimited Miles
Wheelchair Lift..... 1 Year/50,000 Miles

21.2.1 BODY

Base Warranty.....2 year Unlimited Miles
Body Structure..... 5 Year/150,000 Miles
Floor Structure..... 5Year/150,000 Miles

21.2.2 CLIMATE CONTROL

HVAC..... 2 Year Unlimited Miles
Auxiliary Heater (if used)2 Year Unlimited Miles

21.2.3 SEATING

Frames and Foam.....5 Year Unlimited Miles

21.3 High Voltage Battery Degradation

The Contractor shall provide a plan for replacing or reconditioning High Voltage Battery if it has been determined that the High Voltage Battery has degraded beyond its Warrantable End of Life (WEOL). The Contractor must clearly define WEOL and the method by which battery capacity is measured to determine WEOL. The Contractor must define the capacity to which the entire High Voltage Battery is restored such that it will remain above the WEOL for the remainder of the warranty.

22. TRAINING SPECIFICATIONS

22.1 TRAINING INTRODUCTION

The Contractor shall provide an approved instruction program for designated Maintenance personnel in the proper methods of operating, maintaining, and servicing buses provided to the Purchaser. Contractors must submit the following:

- An outline of their proposed training program. This outline must be based on VPTA's requirements as detailed in this specification. Contractors who fail to submit a plan for approval, or who have their plan rejected, may be ruled nonresponsive to the bid.
- A detailed schedule for review and approval by the Purchaser. The Contractor shall include, as part of the lesson plan, the name of the instructors. The Contractor is responsible for scheduling and costs of vendor presenters. Contractor shall also inform the Purchaser.
- As part of the training schedule, any equipment required, such as audio/visual equipment, blackboards, wipe boards, flip charts, and overhead or slide projectors, needed to make the presentations.

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- Each Procuring Agency shall receive 80 hours of training at no additional cost after their initial ordering of vehicles.

22.2 MAINTENANCE TRAINING

The Contractor shall provide a complete training and instruction for the Purchaser's designated mechanics, service personnel, and supervisors covering preventative maintenance, trouble shooting, and repair of the buses. A detailed training plan shall be included with Proposal.

VPTA will limit the number of personnel in each class to ten (10) or less, so that the class size will be manageable. Personnel attending each module or class will be designated by VPTA with a list of attending individuals available to Contractor. All attendance records will be kept by VPTA.

The Maintenance training and instruction program should cover (but not limited to) the following areas:

- A. ORIENTATION
- B. LOW VOLTAGE ELECTRICAL
- C. PROPULSION SYSTEM
- D. HEATING, VENTILATION, AND AIR CONDITIONING (HVAC) including AUXILIARY HEATER
- E. WHEELCHAIR LIFT SYSTEM
- F. EXPLANATION OF USE OF DIAGNOSTIC SOFTWARE
- G. ENERGY STORAGE SYSTEM
- H. HIGH VOLTAGE ELECTRICAL

22.3 MAINTENANCE TRAINING PROGRAM CONTENT

- A. Electrical/Electronics
 - 1. Location of all key electrical components found on the bus.
 - 2. Explanation of the wiring diagram and wiring codes.
 - 3. Explanation of the low voltage charging system along with basic troubleshooting of the system.
 - 4. Explanation of the Exterior and Interior lighting system along with basic troubleshooting of the system.
 - 5. Explanation of the safety shutdown system, including the warning indicators along with basic troubleshooting of the system.
- B. Accessories
 - 1. Explanation of the accessories and the location of all key accessory components
 - 2. Explanation of accessory preventive maintenance procedures
- C. Transmission controls
 - 1. Explanation of the transmission.
 - 2. Explanation of the electronic control system.
 - 3. Basic troubleshooting of the transmission.
 - 4. The transmission training basic troubleshooting and preventive maintenance.
- D. HVAC System
 - 1. Explanation of the air conditioning system and the location of all key air conditioning components, (handouts required).
 - 2. Explanation of the air conditioning electrical system.
 - 3. Explanation of the air conditioning compressor along with basic troubleshooting and preventive maintenance of the air conditioning compressor.
 - 4. Basic troubleshooting of the air conditioning system.
 - 5. Preventive maintenance of the air conditioning system.

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6. Explanation of heating fuel system, if used
 7. Explanation of heat source and heat distribution system
 8. Basic troubleshooting of the heating system.
 5. Preventive maintenance of the heating system
- E. Wheelchair Lift
1. Explanation of the wheelchair lift mechanical systems.
 2. Explanation of the wheelchair lift electrical systems.
 3. Proper adjustment of the wheelchair lift.
 4. Rebuilding of wheelchair components.
 5. Basic troubleshooting of the wheelchair lift system.
- F. Motor System
1. Explanation of motor system
 2. Explanation of motor routine maintenance procedures
 3. Explanation of propulsion control system along with basic troubleshooting
- G. Energy Storage System
1. Explanation of Energy Storage System high voltage safety procedures
 2. Explanation of the Energy Storage System and the location of all key air conditioning components, (handouts required).
 3. Preventive maintenance of Energy Storage System
 4. Basic troubleshooting of the Energy Storage System
 5. Basic programming of charging schedules

22.4 TRANSPORTATION TRAINING

The Contractor shall provide complete training and instruction for the Purchaser's designated Instructors, street supervisors, and dispatchers. The program shall include but not be limited to the following:

- A. Operator Compartment
1. Controls and switches
 2. Warning Indicators and gauges
 3. Seat adjustment
 4. Door control
- B. Walk around Inspection
1. Compartment by compartment explanation
 2. adjustments
- C. Climate control system

22.5 TRAINING PROGRAM AIDS

The Contractor shall provide training and instruction materials for all participants in the training programs. This instruction material will be kept by the individuals to allow them to retain and remember salient areas of training and instruction modules. The Purchaser will work with the Contractor to help develop this instruction.

22.6 TRAINING FACILITIES

All training will be conducted at the Purchaser's designated facilities. The Contractor shall inform the VPTA Entities of any special facilities needed. VPTA Entities will assist the Contractor in the set up and tear down of training aids and models used in the presentations.

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22.7 TRAINING INSTRUCTORS

All training instructors shall be competent to teach the course area they are instructing. Further, all instructors shall speak English and have a complete understanding of the English language. If the instructor or vendor presenter lacks the skill or knowledge to provide instruction, or cannot communicate with the students, the Purchaser reserves the right to request that the instructor be replaced and area of training to be repeated.

23. OPTIONAL PRE-MANUFACTURING MEETING

At the request of the Purchaser, the Contractor's and the Purchaser's representatives shall schedule a phone conference prior to the start of manufacture to review the Technical Specifications and options. At this meeting, the Contractor will be required to submit a project time-line which reflects the proposed schedule regarding design, manufacturing, testing, and delivery of the buses. **This may be optional only at the request of the Purchaser.**

24. MATERIAL AND WORKMANSHIP

All materials, parts, and equipment furnished by the Contractor shall be new, high grade, and free from defects. Workmanship shall be in accordance with generally accepted industry standards. The Contractor shall establish and maintain quality assurance policies and procedures to ensure compliance with these specifications. The Contractor shall extend to VPTA representatives full access to its surveillance and monitor the Contractor's compliance with its established quality assurance procedures and VPTA's specifications. Materials, parts and workmanship not conforming to the requirements of these specifications shall be considered defective and will be subject to rejection. If the Contractor fails to replace any defective or damaged work or material after reasonable notice, the Purchaser may cause such work or materials to be replaced. The replacement expense shall be deducted from the amount to be paid to the Contractor.

25. COMPONENTS & PARTS: GENERAL

Viewed individually and as a finished product, all materials, components, and parts installed in or on the vehicle during its manufacturing shall be newly made of the current model year under standard production by the manufacturer. Under no circumstances, are used, reconditioned or obsolete parts or components to be used in the assembly of the vehicle or to be installed in or on it. Components or parts damaged prior to or during delivery will not be acceptable and shall be replaced at Contractor's own expense with a new component or part. The vehicle and all of its components and parts will be designed to permit ready accessibility for maintenance purposes with minimal disturbances of other components or parts. The term "heavy duty" as used in these specification documents means "in excess of the usual or normal quality or capacity that is supplied or manufactured."

26. INTERCHANGEABILITY

All vehicles and their components procured under this contract by a single Purchaser, whether provided by subcontractors or manufactured by the Contractor shall be duplicates in design, manufacture, and installation to assure interchangeability among vehicles in this procurement. This interchangeability shall extend to the individual components as well as to their locations in the vehicles. If different length vehicles are purchased exceptions will be made (i.e. sheet metal). The manufacturer's standard warranty shall be furnished with each vehicle along with any extended warranties requested. Warranty will exclude any

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mileage and time associated with or caused in the delivery of vehicles from assembly plant to the Purchaser's facility.

27. CONTRACTOR'S QUALITY ASSURANCE

The Contractor shall establish and maintain an effective in-plant quality assurance team. It shall be a specifically defined organization and should be directly responsible to the Contractor's top management.

- a. The quality assurance team shall exercise quality control over all phases of production, from initiation of design through manufacture and preparation for delivery. The team shall also control the quality of supplied articles.
- b. The quality assurance team shall have the authority and responsibility for reliability, quality control, inspection planning, establishment of the quality control system, and acceptance/rejection of materials and manufactured articles in the production of cutaway buses.
- c. The quality assurance team shall verify inspection operation instructions to ascertain that the manufactured product meets all prescribed requirements and specifications.
- d. The quality assurance team shall maintain and use records and data essential to the effective operation of its program. These records and data shall be available for review by the Purchaser's representative or resident inspectors. Inspection and test records for this procurement shall be available for a minimum of three years after inspections and tests are completed.
- e. The quality assurance team shall detect and promptly assure correction of any conditions that may result in the production of defective cutaway buses. These conditions may occur in design, purchases, manufacture, tests or operations that culminate in defective supplies, services, facilities, technical data, or standards.
- f. The Contractor shall maintain drawings and other documentation that completely describe a qualified bus that meets all of the options and special requirements of this procurement. The quality assurance team shall verify that each cutaway bus is manufactured in accordance with these controlled drawings and documentation.
- g. The Contractor shall provide and maintain the necessary gauges and other measuring and testing devices for use by the quality assurance organization to verify that the buses conform to all specification requirements.
- h. When production jigs, fixtures, tooling masters, templates, patterns, and other devices are used as media of inspection, they shall be proved for accuracy at formally established intervals and adjusted, replaced or repaired as required to maintain quality.
- i. The Contractor's gauges and other measuring and testing devices shall be made available for use by the Purchaser representative or resident inspectors to verify that the buses conform to all specification requirements. If necessary, the contractor's personnel shall be made available to operate the devices and to verify their condition and accuracy.
- j. The Contractor shall ensure that all basic production operations, as well as all other processing and fabricating, are performed under controlled conditions. Establishment of these controlled conditions shall be based on the documented work instructions, adequate production equipment, and special working environments, if necessary.
- k. A system for final inspection and testing of completed cutaway buses shall be provided by the quality assurance team. It shall measure the overall quality of each completed bus.
- l. The quality assurance team shall monitor the Contractor's system for controlling nonconforming materials. The system shall include procedures for identification, segregation and disposition of such materials.

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- m. Statistical analyses, tests and other quality control procedures may be used when appropriate in the quality assurance process.
- n. A system shall be maintained by the quality assurance team for identifying the inspection status of components and completed cutaway buses. Identification may include cards, tags or other normal quality control devices.

28. CONTRACTOR'S PRE-DELIVERY TEST & INSPECTIONS

Pre-delivery tests and inspections shall be performed at or near the contractor's plant. They shall be performed in accordance with the procedures defined in the Contractor's Quality Assurances, and they may be witnessed by a Purchaser representative or resident inspector if supplied by the Purchaser. In the event that the Purchaser provides for the services of a resident inspector or staff serving that function, when a vehicle passes these tests and inspections, the resident inspector, or staff shall authorize release of the vehicle. However, such release by staff or resident inspector, in no way releases the contractor from its responsibility to deliver vehicles in full conformance with the specification.

29. DELIVERY OF BUSES

Buses shall be delivered between 8AM and 5PM Monday through Friday. Notice of scheduled delivery shall be provided to the Purchaser one week in advance with a telephone update 1 day in advance. If vehicle(s) are driven to the point of delivery, drivers shall keep a complete and accurate maintenance log, and deliver same to the Purchaser with the vehicle(s). The log shall indicate the driver's compliance with the tire manufacturer's highway operating procedures. Prior to delivery the vehicle shall be completely serviced by Contractor. Servicing shall include lubrication, oil and filter change, wheel alignment, wheel balancing, body condition, wheel torque (all wheels), and all other checks, adjustments and services required for full proper servicing of new vehicle. All service activities performed by Contractor shall be documented on a Pre-Delivery Inspection (PDI) sheet. Front and rear wheels shall be balanced and shall bear evidence of such work being performed. Contractor shall certify said has been done in writing and/or enclose final inspection sheet including copy of alignment printout signed by technician who performed work.

30. ACCEPTANCE OF EQUIPMENT

The Purchaser may withhold the entire payment of each delivered vehicle to assure correction of pre-delivery failures, Fleet Defects, or for any failure to meet the specifications, at the Purchaser's discretion. Within twenty-five (25) calendar days after arrival at the designated point of delivery, the vehicle shall undergo tests at the Purchaser's property to determine compliance with specifications. The Purchaser may also place vehicles in revenue service as part of acceptance testing for up to (10) days. If the vehicle passes these tests, the Purchaser will notify the Contractor of acceptance. Acceptance may occur earlier if the Purchaser notifies the Contractor of early acceptance. If the vehicle fails these tests, it shall not be accepted until the repair procedures defined in "Repairs Prior to Acceptance" have been carried out and the vehicle retested until it passes.

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31. CONDITIONAL ACCEPTANCE

In the event that the bus does not meet all requirements for acceptance the Purchaser may, at its exclusive option, "conditionally accept" the bus and place it into revenue service pending receipt of Contractor furnished materials and/or labor necessary to effectuate corrective action for acceptance. For any conditionally accepted bus the payment shall be reduced by an amount to be withheld, and paid upon corrective action by the Contractor, equal to twice the estimated cost for parts and labor for the corrective action.

32. REPAIRS PRIOR TO ACCEPTANCE

The Purchaser may require the Contractor, or its designated representative, to perform repairs prior to acceptance; the Contractor may request that the work be done by Purchaser personnel, if the Purchaser allows. The Purchaser shall be reimbursed by the Contractor, if the Purchaser chooses to participate in vehicle repairs.

33. REPAIRS BY CONTRACTOR PRIOR TO ACCEPTANCE

If the Purchaser requires the Contractor to perform repairs prior to acceptance of the vehicle(s), the Contractor's representative must begin the repair within five (5) working days after receiving notification from Purchaser of failure of acceptance tests.

34. REPAIRS BY PURCHASER PRIOR TO ACCEPTANCE

If the Purchaser agrees to a request by the Contractor to perform repairs on a vehicle prior to acceptance, it shall correct or repair the defect and any related defects using parts available from inventory or parts supplied by the Contractor specifically for this repair. Contractor shall reimburse full repair cost (labor rate, fringe benefits, and overhead as described under warranty repairs) and parts cost at 20% over invoiced cost). A report of all repairs covered by this procedure shall be submitted to the Contractor for replacement of parts or, at the Purchaser's option, for reimbursement of parts costs.

35. WARRANTY INFORMATION

The Proposer shall state, with the proposal, the name and location of technical service and parts representatives responsible for assisting the Purchaser in satisfying warranty claims. A copy of warranty guarantees must be submitted by the Proposer as part of the proposal submission.

35.1 SCOPE OF WARRANTY REPAIRS

When warranty repairs are required, the Purchaser and the Contractor's representative shall agree within five (5) working 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 Purchaser reserves the right to commence the repairs. At its discretion, the Purchaser reserves the right to commence the repairs in accordance with "Repairs by Purchaser."

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36 Warranty Repair Procedures

36.1 REPAIR PERFORMANCE

The Contractor is responsible for all warranty-covered repair work. The Purchaser may allow the Contractor or its designated representative to perform such work. At its sole discretion, the Purchaser may perform such work if it determines it needs to do so based on transit service or other requirements. Such work and parts shall be reimbursed by the Contractor.

36.2 REPAIRS BY CONTRACTOR

The Contractor or its designated representative shall begin work on warranty-covered repairs within (5) calendar days after receiving notification of a defect from the Purchaser. The bus shall be made available in a timely manner to complete repairs within the Contractor's repair schedule.

The Contractor shall provide, at its own expense, all spare parts, tools, and space required to complete repairs. At the Purchaser's option, the Contractor may be required to remove the bus from the Purchaser property while repairs are being affected. If the bus is removed from the property, repair procedures must be diligently pursued by the Contractor's representative. All costs incurred by the removal of the bus to and from the Contractor's repair facility are to be borne by the Contractor and reimbursable under warranty if Purchaser personnel are utilized to shift the buses.

36.3 REPAIRS BY PURCHASER

- a. **Parts Used:** If the Purchaser performs the warranty-covered repairs, 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 Purchaser may use Contractor-specified parts available from its own stock, if deemed in its best interest. Monthly, or at a period to be mutually agreed upon, reports of all repairs covered by this warranty shall be submitted by the Purchaser to the Contractor for reimbursement or replacement of parts. Efforts shall be made by both the Contractor and the Purchaser to automate warranty claims processing and record keeping.
- b. **Contractor Supplied Parts:** The Purchaser may require that the Contractor supply new parts for warranty-covered repairs being performed by the Purchaser. These parts shall be shipped, prepaid, to the Purchaser from any source selected by the Contractor within (5) working days of receipt of the request for said parts. Parts supplied by the Contractor shall be OEM equivalent or superior to that used in the bus original manufacture. All parts shall include hardware, bolts, nuts, washers, and associated accessories that are normally supplied when replacement parts or kits are purchased.
- c. **Defective Component Return:** The Contractor may request that parts covered by the warranty be returned to the manufacturing plant. The total cost for this action shall be paid by the Contractor.
- d. **Failure Analysis:** The Contractor shall, upon specific request of the Purchaser, provide a failure analysis of fleet defect, or safety-related parts and major components removed from buses under the terms of the warranty that could affect fleet operation. Such reports shall be delivered within (60) days of the receipt of failed parts.
- e. **Reimbursement for Labor:** The Purchaser shall be reimbursed by the Contractor for labor. The amount shall be determined by multiplying the number of man-hours required to correct the defect by the Purchaser's shop rate at the time of the repair, plus the cost of towing in the bus, if such action was necessary.
- f. **Reimbursement for Parts:** The Purchaser shall be reimbursed by the Contractor for defective parts and for parts that must be replaced to correct the defect. The reimbursement shall be the current price at the time of repair and shall include taxes where applicable and 20% handling costs.

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- g. *Reimbursement Requirements:*** The Contractor shall reimburse the Purchaser for warranty labor and/or parts within (60) days of receipt of warranty claim.

36.4 WARRANTY AFTER REPAIR/REPLACEMENT

If any component, unit, or subsystem is repaired, rebuilt, or replaced by the Contractor or by the Purchaser with the concurrence of the Contractor, the component, unit, or subsystem shall have the un-expired warranty period of the original. Repairs shall not be warranted if Contractor-provided or authorized parts are not used for the repair; unless the Contractor has failed to respond within (5) days in accordance with Scope of Warranty Repairs. The warranty on items determined to be Fleet Defects shall be guaranteed for the remainder of the warranty period or for one year, whichever period is greater. This extended warranty shall begin on the repair/replacement date for corrected items on each bus.

36.5 EXTENSION OF WARRANTY

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

36.6 VOIDING OF WARRANTY

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 performed by adequately trained personnel in accordance with recognized standards of the industry. The warranty shall also be void if the Purchaser fails to conduct normal inspections and scheduled preventative maintenance procedures as recommended in the Contractor's maintenance manuals and that omission caused the part or component failure. The Purchaser shall maintain documentation, auditable by Contractor, verifying service activities in conformance with the Contractor's maintenance manuals.

36.7 EXCEPTION AND ADDITIONS TO WARRANTY

The warranties shall not apply to the following items: scheduled maintenance items, normal wear-out items, and items furnished by the Purchaser, except insofar as such equipment may be damaged by failure of a part or component for which the Contractor is responsible.

The warranties shall not apply to components and major subsystems specified by the Purchaser, and required by the Purchaser to be installed on the bus by the Contractor, if the following conditions apply: the Purchaser has rejected the Contractor's request for an approved equal and the component or major subsystem supplier declines to participate in this warranty; and the Contractor notifies the Purchaser in writing with, or before submitting, the Contractor's original Proposal. The Contractor shall pass on to the Purchaser any warranty offered by a component or major subsystem supplier that is superior to that required herein.

36.8 DETECTION OF DEFECTS:

If the Purchaser detects a defect within the warranty periods it shall, within twenty (20) working days, notify the Contractor's representative. Within five (5) working days after receipt of notification, the Contractor's representative shall either agree that the defect is in fact covered by warranty, or reserve judgment until the subsystem or component is inspected by the Contractor's representative, or is removed and examined at the Purchaser's property or at the Contractor's plant. At that time, the status of warranty coverage on the subsystem or component shall be mutually resolved between the Purchaser and the Contractor. Work shall commence to correct the defect within ten (10) working days after receipt of notification and shall be conducted in accordance with 'Repairs by Contractor'.

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37. FLEET DEFECTS

37.1 OCCURANCE AND REMEDY

A Fleet Defect is defined as cumulative failures of any kind in the same components in the same or similar application, where such items are covered by warranty, and such failures occur in the warranty period in the specified proportion of the buses delivered under this contract. Failures must be present in a minimum of two buses in a particular order AND the proportion shall be 50% of the vehicles in a particular order for a Fleet Defect to be considered a possibility. If the aforementioned failures arise in a sufficient number of vehicles that a Fleet Defect is likely, the Procuring Agency and the Contractor shall determine the appropriate action to prevent the Defect(s) from impacting future orders.

The Contractor shall correct a Fleet Defect under the warranty provision defined in “Repair Procedures”. If deemed necessary after correcting the Fleet Defect, the Purchaser 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 the other buses and spare parts purchased under this contract. Where the specified Fleet 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 of the buses purchased under this contract by mutually agreed arrangement.

37.2 SCOPE OF WARRANTY PROVISIONS:

The warranty on items determined to be Fleet Defects shall be extended for the time/and or miles of the original warranty. This extended warranty shall begin on the repair/replacement date for corrected items.

37.3 EXCEPTION TO FLEET DEFECTS PROVISIONS

The Fleet Defect warranty provisions shall not apply to Purchaser-supplied items. Fleet Defect warranty provisions shall not apply to components and major subsystems specified by the Purchaser and required by the Purchaser to be installed on the bus by the Contractor, if the following conditions apply: the Purchaser has rejected the Contractor’s request for an approved equal and the component or major subsystem supplier declines to participate in this warranty; and the Contractor notifies the Purchaser in writing with, or before submitting, the Contractor’s original Proposal. The Contractor shall pass on to the Purchaser any warranty offered by a component or major subsystem supplier that is superior to that required herein.

38. MANUALS & PARTS LIST

38.1 REQUIREMENTS

The Contractor shall furnish, as part of the Contract, the manuals as indicated below and in accordance with the criteria specified herein:

<i>Description</i>	<i>Number of Copies</i>
Maintenance Manuals.....	1 per size vehicle per order
Driver’s Operating Manuals.....	1 per vehicle
Body Parts Manuals.....	2 per size vehicle per order
Wiring Diagrams.....	2 per size vehicle per order
Chassis Manufacturers Manuals.....	2 per size vehicle per order
Diagnostics Interface Manuals.....	1 per vehicle per order

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38.2 STANDARDS & FORMAT OF MANUALS

- a. The manuals shall meet the standards, and be presented in accordance with the format requirements of this specification. The material in all manuals shall be organized and indexed with a standard numbering system in accordance with an approved Contractor's outline.
- b. In addition to the hard copy quantities outlined in 38.1, electronic copies of manuals shall be provided for each size vehicle per order. Purchaser shall also be provided with full access to OEM websites.
- c. Each respective manual shall contain the same topics. The format of all data contained in each section of the manuals shall be logically organized with systems and elements considered in descending order of importance. Care shall be taken that all statements are clear, positive and accurate, with no possibility of incorrect implications. The manuals shall be complete, modern and authentic with no extraneous material such as advertisements or irrelevant information.
- d. Driver's Operating Manuals shall be approximately 4¼ x 7 inches in dimension. It is suggested that they be bound along the 7-inch dimension, with no fold out or loose pages or diagrams.
- e. All manuals shall be designed for continuous, long term service. Binder covers shall be resistant to oil, moisture, and wear commensurate with their intended use.
- f. Detailed wiring schematics for vehicle as well as the bus body shall be provided and **must be specific** for buses purchased.

38.3 MAINTENANCE MANUALS

Maintenance manuals shall contain complete data required for routine and periodic maintenance of all parts of the Bus, including, but not limited to, the following:

- a. General operation description.
- b. Trouble-shooting guide covering all mechanical, electrical and electronic components.
- c. Preventive maintenance, lubrication, and adjustment requirements.
- d. Wiring and schematic diagrams and schedules for wire and cable sizes and ratings, plus locations in the Bus of electrical and electronic components, including electronic engine and transmission components.
- e. Air and hydraulic system diagrams showing locations (in the bus) of air and hydraulic components.
- f. Detailed illustrated procedures for component change-out, plus servicing, adjusting, testing, and run-in information, as required.
- g. Body and structural information and material specifications for major accident repairs.
- h. Propulsion System operation, diagrams, and maintenance requirements
- i. Energy Storage System diagrams, maintenance requirements, and safety information.

38.4 DRIVER'S OPERATING MANUALS

The Driver's Manuals shall provide information and instructions for all phases of operation of the bus, including but not limited to bus mechanical operation, response to safety alarm systems, lighting system controls, emergency actions, maintenance checks, and turning characteristics of the bus.

38.5 PARTS MANUALS

The parts manuals shall enumerate and describe every component with its related parts, including the supplier's number, the Contractor's number, and the commercial equivalents. Cutaway and exploded drawings shall be used to permit identification of all parts. The drawings shall contain data arranged so that

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the part numbers can be readily found and identified in the drawing for each system and subsystem component, assembly, subassembly, or piece part, from an orderly breakdown of the complete bus. They shall be indexed by part number and by part name and shall be sufficiently illustrated to identify items requiring repair, replacement, and storage for use in the maintenance of buses. Isometric exploded views shall be used to identify each piece part.

38.6 CHASSIS MANUAL

The contractor shall supply complete sets of manuals from the chassis manufacturer for the model year and type of chassis supplied. These shall include drive train, electrical, and any supplements available. The schematics shall be for specific bus purchased.

38.7 SPARE PARTS

The Contractor shall guarantee the availability of replacement parts for the buses for at least a ten (10) year period after date of acceptance of buses by the Purchaser.

38.8 REVISIONS

Following the publication of each manual required herein, the Contractor shall provide revisions covering any changes, whether required by change of design or procedures, or due to error; these revisions shall be kept current during the warranty period. Manual revisions shall be furnished to The Purchaser before or in conjunction with the arrival of any altered parts or components. After the warranty period, revisions shall be furnished to The Purchaser every six (6) months for a period of ten (10) years.

38.9 DELIVERY

All Manuals must be delivered to The Purchaser one (1) month prior to delivery of the buses.

(Note: A preliminary wiring diagram is required with the delivery of the first bus. A final wiring diagram will be required within 90 days of delivery of the last bus.)

38.10 PRE-APPROVAL OF MANUALS

All prospective Contractors must submit representative samples of the Manuals they propose to supply in compliance with this specification for approval by The Purchaser.

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39. OPTIONS / ALTERNATES

The Bidder shall also include the amount of change in the cost per vehicle for amending the specifications as follows (“Or Approved Equals” applies to any brand/product name mentioned in this section):

#	Section	Description	Price Change
1	7.6	Change standard tires to Hankook RW11 I*Pike LT 225/75R16 on all wheels	
2	7.6	Include matching spare tire and rim with vehicles (per tire)	
3	7.6	Add Spare Winter Tire and rim (per tire)	
4	7.7	Add Stainless steel wheel liners	
5	7.7	Add brushed aluminum wheels in lieu of steel wheels.	
6	7.9	Add Mor/Ryde Rear Suspension (or approved equal)	
7	7.9	Add Roll Guard Suspension (or approved equal)	
8	7.15.1	Include compatibility with AC charging for on-board vehicle charging system.	
9	7.15.7	Extended Range Option #1 (state operating range below) Vehicle Operating Range:_____	
10	7.15.7	Extended Range Option #2 (state operating range below) Vehicle Operating Range:_____	
11	7.15.7	Extended Range Option #3 (state operating range below) Vehicle Operating Range:_____	
12	7.15.7	Extended Range Option #4 (state operating range below) Vehicle Operating Range:_____	
13	8	Add Circuit Breakers in lieu of fuses	
14	8	Add Brushless A/C motors	

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15	8.3	Delete regenerative braking override switch	
16	8.3	Add lighted hour meter to Driver Switch Panel	
17	8.5	Add Master Disconnect switch to Low Voltage Battery [Rotary type switch, shall not disconnect any chassis circuitry]	
18	9	Add Rear Tow Hooks	
19	9.4	Change Base Paint Color of Bus	
20	9.8	Add Standard Bumper in lieu of Romeo Rim HELP Bumper (or approved equal)	
21	9.11	Add Front Crossview Mirrors	
22	9.11	Add Rear Mounted Exterior Mirror	
23	9.12	Add Service Compartment Lights	
24	9.12	Add Garon Non-slip Step Covers	
25	10.1	Add Lighthouse Electric Stepwell Heater	
26	10.1	Standard Floor in lieu of Raised Floor	
27	10.3	Replace composite flooring with Transit grade rubber flooring (3/16" thickness, ribbed in aisle; 0.125" thickness, smooth under seats).	
28	10.5	Add heated glass windshield in lieu of standard windshield	
29	10.5	Add Emergency Exit Window w/ ajar buzzer	
30	10.5	Add Emergency Exit sign light (per sign)	
31	10.6	Add Electric Passenger Door Control in lieu of manual control	

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32	10.8	Add Additional Driver Storage Compartment over Header	
33	10.8	Add Driver's running board	
34	10.8	Add Driver's fan – Non-glare (2 fans on 1 switch)	
35	10.8	Add In-Dash combination AM/FM/CD/PA System w/ 4 Internal Speakers & 1 External Speaker	
36	10.8	Delete AM/FM Radio & CD Player (Note: Does not delete PA System)	
37	10.9	Add Ford Captain OEM Driver's seat in lieu of Freedman (or approved equal)	
38	10.9	Add Recaro Ergo M (3-point) Driver's seat in lieu of Freedman (or approved equal)	
39	10.9	Add 6 Way Power Pedestal for Driver's Seat	
40	10.9	Add Driver Barrier to Driver's seating area	
41	10.10	Add wheelchair position	
42	10.10	Add or delete double fold away	
43	10.10	Add or delete fixed double seat	
44	10.10	Add Double Passenger Child Restraint Seat w/One Child Seat	
45	10.10	Vinyl upholstery in lieu of level 5 Fabric	
46	10.10	Delete Arm Rests	
47	10.10	Add child restraint snap hooks	
48	10.10	Add Grab Handles on Wall Seats [Per Seat]	

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49	10.10	Add Hi-Vis Yellow grab handles on the rear of the aisle seats	
50	10.10	Add passenger seat sneeze guard/shields to seat backrests	
51	10.13	Add Yellow Duradiamond Grab Rail in lieu of stainless steel	
52	10.13	Add Yellow Duradiamond Stanchions in lieu of stainless steel	
53	10.13	Add Transition panel stone guards	
54	10.15	Delete Transpec Roof Hatch	
55	10.17	Delete Rear Emergency Exit Door.	
56	10.17	Add Lower Window in Emergency Exit Door	
57	10.17	Add 3-Point Chrome Handle for Emergency Door – Non-locking	
58	10.17	Add Rear Window in lieu of Emergency Exit Door.	
59	10.17	Add Second Rear Window set below Window in #59.	
60	11.3	Delete Auxiliary Heater, substitute with electric heat (zero emission vehicle option)	
61	11.3.1	Change Auxiliary Heater to gasoline-fueled in lieu of diesel.	
62	11.3.1	Change Auxiliary Heater to Liquefied Petroleum Gas (LPG)-fueled in lieu of diesel.	
63	11.3.1	Increase Auxiliary Heater Fuel Tank to 60 hours reserve capacity.	
64	12.1	Change Wheelchair Lift position from front to rear.	
65	12.1	Change 800lb rated Braun Century lift to 1,000lb rated Braun Century lift.	

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66	12.1	Add Braun Vista Lift in lieu of Braun Century	
67	12.1	Add Ricon KlearVue K5510 Lift (with 1,000 lb capacity) in lieu of Braun Century	
68	12.1	Add Ricon S5510 Lift in lieu of Braun Century.	
69	12.1	Add Braun Millenium Lift in lieu of Braun Century.	
70	12.1	Add Armored Pendant for Ricon Lift.	
71	12.1	Add Wheelchair safety straps to Wheelchair lift.	
72	12.1	Add Ski Roller Kit for Ricon Lift.	
73	12.1	Add Single Leaf Lift Door in lieu of Double Leaf Door.	
74	12.1	Add 3-Point Chrome Handle for Lift Door – Non locking.	
75	12.1	Add Loop Hold-Open for Lift Door.	
76	12.2	Add Wheelchair tie down storage locations.	
77	12.2	Add Ribbed Rubber in wheelchair securement location	
78	12.2	Add Amesco A.R.M system	
79	13	Delete passenger stop request	
80	13	Add touch tape passenger stop request in lieu of pull cord system	
81	14	Delete Public Address System	
82	15	Change Electronic Sign Display from Amber LED to White LED	

2.0 TECHNICAL SPECIFICATIONS AND REFERENCE

83	15	Delete Twin Vision Electronic Signs	
84	15	Add Twin Vision Smart Series	
85	15	Add Luminator Vista Destination Signs in lieu of Twin Vision	
86	15	Add Transign Roller Destination Signs in lieu of Twin Vision	
87	15	Delete side Destination Sign	
88	18	Add Corlar 825P Tube Structure Protection	
89	19.1	Add Main Farebox Model M4 with Model V4 cashbox (including installation)	
90	19.1	Delete 2-place bike rack	
91	19.1	Add 1-place bike rack	
92	19.1	Add 3-place bike rack	
93	19.1	Add Ski Rack	
94	19.2	Add Motorola PM400LTR in lieu of Kenwood NX800 HK	
95	19.2	Add Motorola XPR5550 radio with voice, GPS, and data capability in lieu of Kenwood NX800 HK.	
96	19.2	Add Motorola RRA-4738a(450-470 mHz) antenna in lieu of standard antenna	
97	19.2	Delete Two-Way Radio (except antenna and coax wiring)	
98	19.3	Delete Security and Surveillance System	
99	19.3	Add Rosco Dualvision Camera System in lieu of Seon	

2.0 TECHNICAL SPECIFICATIONS AND REFERENCE

100	19.3	Add Seon TH-6 in lieu of TH-4 and add back-up camera and monitor to configuration	
101	19.3	Add or Remove camera to configuration (per camera)	
102	19.3	Add High-Definition camera in lieu of Analog camera (per camera)	
103	19.3	Increase DVR storage from 500GB to 1TB	
104	19.3	Add stand-alone Rear-View Camera System for Backing Up	
105	19.4	Provide and install tablet mount and power supply for Samsung Galaxy Tab 4 (as specified in Section 19.4)	
106	19.4	Add In-Dash USB port for tablets (no tablet mount installation, alternative to #106)	
107	21	Add pricing for extended warranties offered by Motor and Battery Manufacturers.	
108	22	Additional 80 hour block of training (price per block)	
109	22	Additional training classes (price per class)	
110	22	Delete Maintenance Training Classes	
111	38	Add lot of special tools required for maintenance of vehicles	
112	38	Add lot of Personal Protective Equipment (PPE) required for maintenance of vehicles.	
113	38	Add Battery, Drive System, and Brakes Diagnostic tools	
114	38	Add OEM diagnostic software package	
115	38.1	Add Helms Manual – CD (or approved equal)	

3.0 PRICE FORMS

Battery Electric Cutaway Bus (Type A) Bid Form

Price per Bus (As detailed in Technical Specifications)

	Size 1 Cutaway	Size 2 Cutaway
A. FY21	\$ _____	\$ _____
B. FY22	\$ _____	\$ _____
C. FY23	\$ _____	\$ _____
Est. Operating Range:		
Vehicle Mfg. and Model:		

Date of FTA _____
Bus Test*

* If no bus test has been performed, enter the anticipated completion date of the FTA bus test.

FY is defined as the State of Vermont's Fiscal year, (July 1 to June 30th, with the fiscal year being named as the second calendar year of the two calendar years that a fiscal year straddles.

Future FY pricing must be quoted to include the price prior to application of the PPI as described earlier.

Name of firm _____

Phone Number _____

Street Address _____

City, State, Zip _____

Print Name & Title of Authorized Person _____

Signature of Authorized Person _____

3.0 PRICE FORMS

Battery Electric Narrow-Body Transit Vehicle (Type B) Bid Form

Price per Bus (As detailed in Technical Specifications)

	Base Price
A. FY21	\$ _____
B. FY22	\$ _____
C. FY23	\$ _____
Est. Operating Range (miles):	
Vehicle Mfg. and Model:	

Date of FTA _____
Bus Test*

* If no bus test has been performed, enter the anticipated completion date of the FTA bus test.

FY is defined as the State of Vermont's Fiscal year, (July 1 to June 30th, with the fiscal year being named as the second calendar year of the two calendar years that a fiscal year straddles).

Future FY pricing must be quoted to include the price prior to application of the PPI as described earlier.

Name of firm _____

Phone Number _____

Street Address _____

City, State, Zip _____

Print Name & Title of Authorized Person _____

Signature of Authorized Person _____

4.0 VPTA GENERAL CONTRACT PROVISIONS

A. Applicability

The following requirements and conditions shall be considered as an essential part of specifications and proposal. This document will serve as part of the contract for the project once the bid is awarded. If there is another contract document the following shall be considered part of that contract.

B. Energy Conservation

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 pursuant to 42 USC 6321 and 49 CFR part 622.

C. Federal Changes

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 current "Master Agreement" between the entities with rights to order buses under this procurement 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.

D. Recycled Products

The Contractor agrees to comply with all the requirements of Section 6002 of the Resource Conservation and Recovery Act (RCRA), as amended (42 U.S.C. 6962), including but not limited to the regulatory provisions of 40 CFR Part 247, and Executive Order 12873, as they apply to the procurement of the items designated in Subpart B of 40 CFR Part 247.

E. No Government Obligation to Third Parties

VPTA 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 VPTA, Contractor, or any other party (whether or not a party to that contract) pertaining to any matter resulting from the underlying contract.

The Contractor agrees to include the above clause in each subcontract financed in whole or in part with assistance provided by VPTA. It is further agreed that the clause shall not be modified, except to identify the subcontractor who will be subject to its provisions.

F. Program Fraud and False or Fraudulent Statements or Related Acts

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.

4.0 VPTA GENERAL CONTRACT PROVISIONS

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 on the Contractor, to the extent the Federal Government deems appropriate.

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.

G. Privacy Act

The following requirements apply to the Contractor and its employees that administer any system of records on behalf of the Federal Government under any contract:

(1) The Contractor agrees to comply with, and assures the compliance of its employees with, the information restrictions and other applicable requirements of the Privacy Act of 1974, 5 U.S.C. § 552a. Among other things, the Contractor agrees to obtain the express consent of the Federal Government before the Contractor or its employees operate a system of records on behalf of the Federal Government. The Contractor understands that the requirements of the Privacy Act, including the civil and criminal penalties for violation of that Act, apply to those individuals involved, and that failure to comply with the terms of the Privacy Act may result in termination of the underlying contract.

(2) The Contractor also agrees to include these requirements in each subcontract to administer any system of records on behalf of the Federal Government financed in whole or in part with Federal assistance provided by FTA.

H. Civil Rights Requirements

The following requirements apply to the underlying contract:

(1) Nondiscrimination – In accordance with 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, religion, national origin, sex, disability, or age. In addition, the Contractor agrees to comply with applicable Federal implementing regulations and other implementing requirements FTA may issue.

(2) Equal Employment Opportunity - The following equal employment opportunity requirements apply to the underlying contract:

(a) Race, Color, Religion, Nation Origin, Sex. In accordance with Title VII of the Civil Rights Act, as amended, 42 U.S.C. § 2000e *et seq.*, 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. chapter 60, and Executive Order No. 11246, “Equal Employment Opportunity in Federal Employment,” September 24, 1965, 42 U.S.C. § 2000e note, as amended by any later Executive Order that amends or supersedes it, referenced in 42 U.S.C. § 2000e note. 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, religion, national origin, or sex (including sexual orientation and gender identity). Such action shall include, but not be limited to, the

4.0 VPTA GENERAL CONTRACT PROVISIONS

following: employment, promotion, 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.

(b) Age – In accordance with the Age Discrimination in Employment Act, 29 U.S.C. § 621-634, U.S. Equal Employment Opportunity Commission (U.S. EEOC) regulations, “Age Discrimination in Employment Act,” 29 C.F.R. part 1625, the Age Discrimination Act of 1975, as amended, 42 U.S.C. § 6101 *et seq.*, U.S. Health and Human Services regulations, “Nondiscrimination on the Basis of Age in Programs or Activities Receiving Federal Financial Assistance,” 45 C.F.R. part 90, 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.

(c) Disabilities - In accordance with section 504 of the Rehabilitation Act of 1973, as amended, 29 U.S.C. § 794, the Americans with Disabilities Act of 1990, as amended, 42 U.S.C. § 12101 *et seq.*, the Architectural Barriers Act of 1968, as amended, 42 U.S.C. § 4151 *et seq.*, and Federal transit law at 49 U.S.C. § 5332, the Contractor agrees that it will not discriminate against individuals on the basis of disability. In addition, the Contractor agrees to comply with any implementing requirements FTA may issue.

(3) 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.

I. Incorporation of FTA Terms

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, dated March 18, 2013, 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 GMT requests which would cause GMT to be in violation of the FTA terms and conditions.

J. Nondiscrimination - Title VI of the Civil Rights Act

The Contractor and any subcontractor agree to comply with all requirements prohibiting discrimination on the basis of race, color, or national origin of Title VI of the Civil Rights Act of 1964, as amended, 42 U.S.C. § 2000d, and U.S. DOT regulations, "Nondiscrimination in Federally-Assisted Programs of the Department of Transportation -- Effectuation of Title VI of the Civil Rights Act," 49 C.F.R. Part 21, and any implementing requirements FTA may issue.

The Contractor must include the above statement in any subcontract.

K. Interest of Member of, or Delegates to, Congress

No member of, or delegate to, the Congress of the United States, shall be admitted to any share or part of this contract, or to any benefit arising therefrom.

4.0 VPTA GENERAL CONTRACT PROVISIONS

L. Conflict of Interest

The officers, employees or agents of the Vermont Public Transportation Association and entities with rights to order buses from this procurement shall neither solicit nor accept gratuities, favors, or anything of monetary value from Contractors, potential Contractors, or parties to sub-agreements.

M. Prohibited Interests

No employee, officer, board member, or agent of VPTA, who is involved in contract specifications, solicitations, selection, or award, shall have any interests in this contract, or the proceeds thereof. In addition, no immediate family members or partners of an employee, officer, board member, or agent of VPTA who is involved in contract specifications, solicitations, selection, or award, shall have any interests in this contract, or the proceeds thereof. Nor shall any organization that employs or is about to employ an employee, officer, board member, or agent of VPTA who is involved in contract specifications, solicitations, selection, or award, shall have any interests in this contract, or the proceeds thereof. Finally, no organization that employs or is about to employ any immediate family members or partners of an employee, officer, board member, or agent of VPTA who is involved in contract specifications, solicitations, selection, or award, shall have any interests in this contract, or the proceeds thereof.

N. Tax Exemption and Tax Issues

VPTA and entities with rights to order buses under this procurement are generally exempt from payment of all Federal, State, and local taxes. Said taxes must not be included in bid prices. VPTA and entities with rights to order buses under this procurement will provide necessary tax exemption information upon request of Contractor after contract award. Contractor shall pay promptly all taxes, excises, license fees and permit fees of whatever nature, applicable to its operations hereunder and take out, pay for, and keep current all licenses, municipal, state, and federal, required for the conduct of its business pursuant to this contract, and further agrees not to permit any of the said taxes excises, or license fees to become delinquent.

O. Lawful Business Conduct

The Contractor shall conduct its business and perform services pursuant to this contract in a lawful manner, and shall fully comply at all times with all federal, state, and local laws in connection with its business operations.

P. Bid Rejection or Cancellation

VPTA reserves the right to waive any minor bid informalities or irregularities which are not crucial to the bid or prejudice against other bidders and/or to reject, for compelling reasons, any and all bids submitted. VPTA may reject all bids or cancel the solicitation before opening if it is deemed by VPTA to be in its best interest to do so.

Q. Non-Collusion

The bidder guarantees that the bid submitted is not a product of collusion with any other bidder and no effort has been made to fix the bid price for any bidder or to fix any overhead, profit or cost element of any bid price. An affidavit of Non-Collusion, as per attached format, must be signed and submitted with bid (Attachment A).

4.0 VPTA GENERAL CONTRACT PROVISIONS

R. Notices

All required notices relating to individual bus orders shall be provided to the same title at the same organization which issued the bus order by Certified Mail, Return Receipt Requested.

The bidders shall identify the person and address to whom notices to the bidder shall be given in connection with the bid.

S. Independent Status of VPTA and Contractor

The Contractor recognizes and acknowledges that neither it nor any of its employees are agents or employees or volunteers of VPTA, its members, and entities with rights to order buses under this procurement, and that Contractor is and shall remain an independent Contractor in the performance of all services hereunder. Contractor understands that VPTA, its members, and entities with rights to order buses under this procurement will not provide the employees or volunteers of the contractor with any individual fringe benefits, workers compensation or other benefits or services available to the employees of VPTA, its members, and entities with rights to order buses under this procurement, nor will VPTA, its members, or entities with rights to order buses under this procurement withhold any state or federal taxes except as required under applicable tax laws, which shall be determined in advance of execution of the contract. All tax returns required by the Vermont Department of Taxes or the United States Internal Revenue Service must be filed by the contractor and information as to contract income paid under this contract will be provided by VPTA, its members, or entities with rights to order buses under this procurement to the Vermont Department of Taxes and the U.S. Internal Revenue Service.

T. Late Bids

Bids received after the exact time set for opening are late bids and will not be considered for award, unless it is determined by VPTA that there was mishandling on VPTA's part.

U. Modifications and Withdrawals of Bids

Bids may be withdrawn through written notice (including email, fax, USPS, etc.) received at any time before the exact time set for receipt of bids. A bid may be withdrawn in person by a bidder or its authorized representative if, before the exact time set for receipt of bids, the identity of the person requesting withdrawal is established as an authorized officer of the company and the person signs a receipt for the bid.

V. Period of Acceptance of Bids

The bidder agrees, if this bid is accepted within 120 calendar days from the date specified in the solicitation for receipt of bids, to enter into a contract and/or furnish any or all items upon which prices are bid at the price set opposite each item, delivered at the designated points(s), within the time specified.

W. Bid Acceptance or Rejection

VPTA may accept any bid or reject any or all bids (even after opening), or to award the contract on such basis as VPTA deems in its best interest.

4.0 VPTA GENERAL CONTRACT PROVISIONS

X. Right Infringement

Contractor agrees to save, keep, and hold harmless, and fully indemnify VPTA, its members, and entities with rights to order buses under this procurement, including any officers or agents from all damages, cost, or expenses in law or equity, that may at any time be claimed against VPTA, its members, and entities with rights to order buses under this procurement for or in connection with any infringement of the patent, trademark, copyright or other rights of any person or persons as a consequence of the use by VPTA, its members, and entities with rights to order buses under this procurement, including any officers or agents, of any product or service supplied under the contract, arising from bids submitted, and any claim that the bidder did not have all necessary right and authority to sell the products or services to VPTA, its members, and entities with rights to order buses under this procurement, provided VPTA gives the Contractor prompt notice in writing of any such claim.

Y. Firm Information for VPTA Bidders List

Fill out attachment B in entirety and return with proposal or bid. In addition, for EACH subcontractor, who may be working for your firm under this contract, copy and fill out sub-contractor information. VPTA encourages contractors to disclose their annual three year gross receipts. (Annual gross receipts are requested on Attachment B – Firm Information for GMT Bidders List, but the disclosure of the additional two years is voluntary).

Z. References.

If references are mentioned in the RFP or Bid Specification as an evaluation criterion and the proposer/bidder is a past (within 10 years) or current contractor, internal references may, at VPTA's sole discretion, be substituted entirely or in part for external references. This section supersedes all portions of the RFP or Bid which reference this issue.

4.0 VPTA GENERAL CONTRACT PROVISIONS

Attachment A

Affidavit of Non-Collusion

I hereby swear (or affirm) under penalty of perjury:

1. That I am the bidder (if the bidder is an individual), a partner in the bid (if the bidder is a partnership), or an officer or employee of the bidding corporation having authority to sign on its behalf (if the bidder is a corporation);
2. That the attached bid or bids has been arrived at by the bidder independently and have been submitted without collusion and without any agreement, understanding, or planned common course of action with any other vendor of materials, supplies, equipment, or service described in the invitation to bid, designed to limit independent bids or competition;
3. That the contents of the bid or bids has not been communicated by the bidder or its employees or agents to any person not an employee or agent of the bidder or its surety on any bond furnished with the bid or bids, and will not be communicated to any such person prior to the official opening of the bid or bids; and
4. That I have fully informed myself regarding the accuracy of the statements made in this affidavit.

Date _____

Signature _____

Company Name _____

Title _____

Subscribed and sworn to me before this _____ day of _____ 20 _____

Notary Public

My commission expires _____

Proposers E.I Number _____
(number used on employers Quarterly Federal Tax Return)

4.0 VPTA GENERAL CONTRACT PROVISIONS

Attachment B (page 1 of 4)

Firm Information for VPTA Bidders List

1. Prime Contractor Information

- a. Firm Name _____
- b. Firm Address _____
- c. Age of Firm _____
(number of years doing business under current name and or incorporation)
- d. Firm's Annual Gross Receipts (most recent completed/audited year):
 - Less than \$500,000 \$500,000-\$1m \$1-\$2m \$2-\$5m \$5-\$10m
 - \$10-\$25m \$25-\$50m \$50-\$75m \$75-\$100m \$1-\$2m
 - Greater than \$200 million
- e. Name of Project for which Proposal was submitted _____
- f. Is firm a VAOT approved DBE? Yes No

2. Subcontractor Information

Subcontractor 1

- a. Firm Name (Subcontractor 1) _____
- b. Firm Address _____
- c. Age of Firm _____
(number of years doing business under current name and or incorporation)
- d. Firm's Annual Gross Receipts (most recent completed/audited year):
 - Less than \$500,000 \$500,000-\$1m \$1-\$2m \$2-\$5m \$5-\$10m
 - \$10-\$25m \$25-\$50m \$50-\$75m \$75-\$100m \$1-\$2m
 - Greater than \$200 million
- e. Name of Project for which Proposal was submitted _____
- f. Is firm a VAOT approved DBE? Yes No
- g. If yes, what is the amount of the proposed contract with this DBE firm? \$ _____

4.0 VPTA GENERAL CONTRACT PROVISIONS

Attachment B (page 2 of 4)

Firm Information for VPTA Bidders List

Subcontractor 2

- a. Firm Name (Subcontractor 2) _____
- b. Firm Address _____
- c. Age of Firm _____
(number of years doing business under current name and or incorporation)
- d. Firm's Annual Gross Receipts (most recent completed/audited year):
 - Less than \$500,000 \$500,000-\$1m \$1-\$2m \$2-\$5m \$5-\$10m
 - \$10-\$25m \$25-\$50m \$50-\$75m \$75-\$100m \$1-\$2m
 - Greater than \$200 million
- e. Name of Project for which Proposal was submitted _____
- f. Is firm a VAOT approved DBE? Yes No
- g. If yes, what is the amount of the proposed contract with this DBE firm? \$ _____

Subcontractor 3

- a. Firm Name (Subcontractor 3) _____
- b. Firm Address _____
- c. Age of Firm _____
(number of years doing business under current name and or incorporation)
- d. Firm's Annual Gross Receipts (most recent completed/audited year):
 - Less than \$500,000 \$500,000-\$1m \$1-\$2m \$2-\$5m \$5-\$10m
 - \$10-\$25m \$25-\$50m \$50-\$75m \$75-\$100m \$1-\$2m
 - Greater than \$200 million
- e. Name of Project for which Proposal was submitted _____
- f. Is firm a VAOT approved DBE? Yes No
- g. If yes, what is the amount of the proposed contract with this DBE firm? \$ _____

4.0 VPTA GENERAL CONTRACT PROVISIONS

Attachment B (page 3 of 4)

Firm Information for VPTA Bidders List

Subcontractor 4

- a. Firm Name (Subcontractor 4) _____
- b. Firm Address _____
- c. Age of Firm _____
(number of years doing business under current name and or incorporation)
- d. Firm's Annual Gross Receipts (most recent completed/audited year):
- Less than \$500,000 \$500,000-\$1m \$1-\$2m \$2-\$5m \$5-\$10m
- \$10-\$25m \$25-\$50m \$50-\$75m \$75-\$100m \$1-\$2m
- Greater than \$200 million
- e. Name of Project for which Proposal was submitted _____
- f. Is firm a VAOT approved DBE? Yes No
- g. If yes, what is the amount of the proposed contract with this DBE firm? \$ _____

Subcontractor 5

- a. Firm Name (Subcontractor 5) _____
- b. Address _____
- c. Age of Firm _____
(number of years doing business under current name and or incorporation)
- d. Firm's Annual Gross Receipts (most recent completed/audited year):
- Less than \$500,000 \$500,000-\$1m \$1-\$2m \$2-\$5m \$5-\$10m
- \$10-\$25m \$25-\$50m \$50-\$75m \$75-\$100m \$1-\$2m
- Greater than \$200 million
- e. Name of Project for which Proposal was submitted _____
- f. Is firm a VAOT approved DBE? Yes No
- g. If yes, what is the amount of the proposed contract with this DBE firm? \$ _____

4.0 VPTA GENERAL CONTRACT PROVISIONS

Attachment B (page 4 of 4)

Firm Information for VPTA Bidders List

Subcontractor 6

- a. Firm Name (Subcontractor 6) _____
- b. Address _____
- c. Age of Firm _____
(number of years doing business under current name and or incorporation)
- d. Firm's Annual Gross Receipts (most recent completed/audited year):
 - Less than \$500,000 \$500,000-\$1m \$1-\$2m \$2-\$5m \$5-\$10m
 - \$10-\$25m \$25-\$50m \$50-\$75m \$75-\$100m \$1-\$2m
 - Greater than \$200 million
- e. Name of Project for which Proposal was submitted _____
- f. Is firm a VAOT approved DBE? Yes No
- g. If yes, what is the amount of the proposed contract with this DBE firm? \$ _____

GMT Internal Use Only

Procurement Officer determine status:

- 1. VPTA/VT UCP DBE (Y/N) _____
- 2. Included on Bidder List (date) _____

5.0 VPTA SPECIAL CONTRACT PROVISIONS

1. Applicability

The following requirements and conditions shall be considered as an essential part of specifications and proposal. This document will serve as part of the contract for the project once the bid is awarded. If there is another contract document the following shall be considered part of that contract.

2. [Intentionally Omitted]

3. [Intentionally Omitted]

4. Buy America

The contractor agrees to comply with the requirements for rolling stock set out at 49 U.S.C. 5323(j)(2)(C) and 49 CFR § 661.11. Rolling stock not subject to a general waiver must be manufactured in the United States and have more than a 65 percent domestic content in FY18 & FY19 and more than 70 percent in FY20 and beyond.

A bidder or offeror must submit to VPTA the appropriate Buy America certification (Attachment 3 for rolling stock and related purchases) with all bids 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.

The Bidder shall also submit to VPTA the following Pre-Award Vendor Domestic Content Data as follows: a) Proposed domestic content of vehicle components to determine that more than the United States content requirement is met; b) Proposed final assembly location; and c) Manufacturing activities that will take place during final assembly.

The manufacturer shall provide enough detail about these activities to allow for the determination that these activities would constitute adequate final assembly under Buy America requirements.

5. Fly America

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 (the parties having used the procurement to order buses) 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 to the party having used this procurement to order buses, 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.

6. Security for Performance in Bids

A bid guaranty issued by a fully qualified surety company acceptable to VPTA and listed as a company currently authorized under 31 CFR, Part 223 (specified in section on Qualifications of Surety below) as possessing a Certificate of Authority is required from each bidder equivalent to five (5) percent of the base price for the largest vehicle size offered at the estimated minimum quantity as established in Section I "General Terms" of this RFP. The "bid guaranty" shall consist of a firm commitment such as a bid bond, certified check, irrevocable letter of credit, or other negotiable instrument accompanying a bid as assurance that the bidder will, upon VPTA's acceptance of its bid, execute such contractual documents as may be required within one-hundred twenty (120) days after the bid is submitted. After bidder is selected and contract details are sufficiently agreed upon, VPTA will return all bid bonds except for the selected bidder. The selected bidder will have their bid bond returned after execution of the contract and submission of required sureties such as performance and payment bonds and other requirements prior to beginning work.

5.0 VPTA SPECIAL CONTRACT PROVISIONS

In submitting this bid, it is understood and agreed by bidder that the right is reserved by VPTA to reject any and all bids, or part of any bid, and it is agreed that the Bid may not be withdrawn for a period of one-hundred twenty (120) days subsequent to the opening of bids, without the written consent of VPTA.

It is also understood and agreed that if the bidder should withdraw any part or all of his bid within one-hundred twenty (120) days after the bid opening without the written consent of VPTA, shall refuse or be unable to enter into this Contract, or refuse or be unable to furnish adequate and acceptable insurance, he shall forfeit his bid security.

It is further understood and agreed that to the extent the defaulting bidder's Bid Bond, Certified Check, Cashier's Check, Treasurer's Check, and/or Official Bank Check (excluding any income generated thereby which has been retained by VPTA) shall prove inadequate to fully recompense VPTA for the damages occasioned by default, then the bidder agrees to indemnify VPTA and pay over to VPTA the difference between the bid security and VPTA's total damages, so as to make VPTA whole.

The bidder understands that any material alteration of any of the above or any of the material contained on this form (Attachment 4), other than that requested, will render the bid unresponsive.

Attorneys-in-fact who sign bid bonds or payment and performance bonds must file with each bond a certified and effective dated copy of their power of attorney.

7. [Intentionally Omitted]

8. [Intentionally Omitted]

9. [Intentionally Omitted]

10. Qualifications of Surety

A Bid Bond and Performance and Payment Bond must be executed by a surety company of recognized standing, authorized to do business in the State of Vermont as a surety company, having a resident agent in the State of Vermont and having been in business with a record of successful continuous operation for at least five years. In addition to the above minimum qualifications, the surety company must meet at least one of the following additional qualifications:

a. The surety company will hold a current certificate of authority as acceptable surety on federal bonds in accordance with the United States Department of Treasury Circular 570, Current Revisions. If the amount of the Bond exceeds the underwriting limitation set forth in the circular, in order to qualify the net retention of the surety company will not exceed the underwriting limitation of the circular, and the excess risks must be protected by coinsurance, reinsurance, or other methods in accordance with Treasury Circular 297, revised September 1, 1978 (31 CFR Section 223.10 Section 233.11). Further, the surety company will provide the VPTA with evidence satisfactory to the VPTA, that such excess risk has been protected in an acceptable manner.

b. The surety company shall have a Best's rating of A VII or better or a rating otherwise acceptable to VPTA. (Ratings lower than A VII must be approved by VPTA in writing prior to submitting bid or proposal to VPTA).

11. [Intentionally Omitted]

5.0 VPTA SPECIAL CONTRACT PROVISIONS

12. Bus Testing

The Contractor [Manufacturer] agrees to comply with 49 U.S.C. 5318(c) and FTA's implementing regulation at 49 CFR Part 665 and shall perform the following:

- 1) 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 VPTA at a point in the procurement process specified by VPTA which will be prior to the recipient's final acceptance of the first vehicle.
- 2) 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. Upon completion of the testing, the contractor shall obtain a copy of the bus testing reports from the operator of the testing facility and make that report publicly available prior to final acceptance of the first vehicle by the recipient.
- 3) 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.
- 4) 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.

Attachment 8 must be filled out and returned to VPTA with the bid or proposal.

Bidders must also include a copy of the Altoona testing report for the bus(es) proposed.

13. Pre Award and Post Delivery Audit

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

- (1) 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.
- (2) Solicitation Specification Requirements: The Contractor shall submit evidence that it will be capable of meeting the bid specifications.
- (3) 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.

Attachment 9 must be filled out and returned to VPTA with the bid or proposal.

Attachment 10 must be submitted to the party having used the procurement to order buses before payment for vehicles.

5.0 VPTA SPECIAL CONTRACT PROVISIONS

14. Lobbying

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.

Attachment 11 must be filled out and returned to VPTA with the bid or proposal.

15. Access to Records and Reports

The following access to records requirements apply to this Contract:

- a. The Contractor agrees to provide the party having used the procurement to order buses, 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 which are directly pertinent to this contract for the purposes of making audits, examinations, excerpts and transcriptions. Contractor also agrees, pursuant to 49 C. F. R. 633 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 U.S.C. 5302(a)1, which is receiving federal financial assistance through the programs described at 49 U.S.C. 5307, 5309 or 5311.
- b. The Contractor shall make available records related to the contract for a capital project or improvement (defined at 49 U.S.C. 5302(a)1) to the party having used the procurement to order buses, the Secretary of Transportation and the Comptroller General or any authorized officer or employee of any of them for the purposes of conducting an audit and inspection.
- c. 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.
- d. 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 party having used the procurement to order buses, 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).

16. Contract Work Hours

(1) 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.

5.0 VPTA SPECIAL CONTRACT PROVISIONS

(2) Violation; liability for unpaid wages; liquidated damages - In the event of any violation of the clause set forth in paragraph (1) 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 Government 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 (1) 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 (1) of this section.

(3) Withholding for unpaid wages and liquidated damages – Subject to section 3703 of 40 U.S.C., the party having used the procurement to order buses 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 (2) of this section.

(4) Subcontracts - The contractor or subcontractor shall insert in any subcontracts the clauses set forth in 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 this section.

17. Contract Safety Standards

Contract Work Hours and Safety Standards Act - (i) The Contractor agrees to comply with section 107 of the Contract Work Hours and Safety Standards Act, 40 U.S.C. section 333, and applicable DOL regulations, " Safety and Health Regulations for Construction " 29 C.F.R. Part 1926. Among other things, the Contractor agrees that it will not require any laborer or mechanic to work in unsanitary, hazardous, or dangerous surroundings or working conditions.

Subcontracts - The Contractor also agrees to include the requirements of this section in each subcontract. The term "subcontract" under this section is considered to refer to a person who agrees to perform any part of the labor or material requirements of a contract for construction, alteration or repair. A person who undertakes to perform a portion of a contract involving the furnishing of supplies or materials will be considered a "subcontractor" under this section if the work in question involves the performance of construction work and is to be performed: (1) directly on or near the construction site, or (2) by the employer for the specific project on a customized basis. Thus, a supplier of materials which will become an integral part of the construction is a "subcontractor" if the supplier fabricates or assembles the goods or materials in question specifically for the construction project and the work involved may be said to be construction activity. If the goods or materials in question are ordinarily sold to other customers from regular inventory, the supplier is not a "subcontractor." The requirements of this section do not apply to contracts or subcontracts for the purchase of supplies or materials or articles normally available on the open market.

18. [Intentionally Omitted]

19. Default and Termination

1. General Termination Provisions-Transportation Services, Professional Services, Supplies, Other Services, Service, and Transit Services Contracts.

a. Termination for Convenience

5.0 VPTA SPECIAL CONTRACT PROVISIONS

VPTA, or a party entitled to use this procurement to procure buses may terminate this contract, in whole or in part, at any time by written notice to the Contractor when it is in best interest of the party having used the procurement to order buses. The Contractor shall be paid its fees or its costs, and profit on work performed up to the time of termination, but no unearned profit or fees on work not yet performed. The Contractor shall promptly submit its termination claim to the party having used the procurement to order buses to be paid the Contractor. If the Contractor has any property in its possession belonging to the party having used the procurement to order buses, the Contractor will account for the same, and dispose of it in the manner the party having used the procurement to order buses 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 party having used the procurement to order buses 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, offset by any damage incurred by virtue of Contractor's default.

If it is later determined by the party having used the procurement to order buses 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 party having used the procurement to order buses, 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 party having used the procurement to order buses in its sole discretion may, in the case of a termination for breach or default, allow the Contractor ten (10) days 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 the party having used the procurement to order buses elects to give the Contractor an opportunity to cure and Contractor fails to remedy, to the satisfaction of the party having used the procurement to order buses, the breach or default or any of the terms, covenants, or conditions of this Contract within ten (10) days after receipt by Contractor of written notice from the party having used the procurement to order buses setting forth the nature of said breach or default, the party having used the procurement to order buses 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 the party having used the procurement to order buses 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 the party having used the procurement to order buses elects to waive its remedies for any breach by Contractor of any covenant, term, or condition of this Contract, such waiver by the party having used the procurement to order buses shall not limit said party's remedies for any succeeding breach of that or of any other term, covenant, or condition of this Contract.

20. Clean Water Requirements

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 party having used the procurement to order buses and understands and agrees that the

5.0 VPTA SPECIAL CONTRACT PROVISIONS

party having used the procurement to order buses will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA Regional Office.

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 or the party having used the procurement to order buses.

21. Clean Air and Excluded Facilities

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 party having used the procurement to order buses and understands and agrees that the party having used the procurement to order buses will, in turn, report each violation as required to assure notification to FTA and the appropriate EPA Regional Office, including the prohibited use of facilities included on the EPA list of violating facilities.

The contractor also agrees to comply with provisions which prohibit the use of facilities included on the EPA list of violating facilities.

The Contractor also agrees to include these requirements in each subcontract exceeding \$100,000 financed in whole or in part with assistance provided by the party having used the procurement to order buses.

22. Debarment (Suspension from Gov't Purchases)

1. By signing and submitting this bid or proposal, the prospective lower tier participant is providing the signed certification set out below in Attachment 13.
2. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, VPTA or parties having used the procurement to order buses may pursue available remedies, including suspension and/or debarment.
3. The prospective lower tier participant shall provide immediate written notice to the party having used the procurement to order buses if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
4. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "persons," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549 [49 CFR Part 29]. You may contact VPTA for assistance in obtaining a copy of those regulations.
5. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized in writing by VPTA.
6. The prospective lower tier participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transaction", without modification, in all lower tier covered transactions (subcontracts) and in all solicitations for lower tier covered transactions.

5.0 VPTA SPECIAL CONTRACT PROVISIONS

7. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Non-procurement List issued by U.S. General Service Administration.

8. Nothing contained in the foregoing shall be construed to require establishment of system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

9. Except for transactions authorized under Paragraph 5 of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to all remedies available to the Federal Government, VPTA or parties having used the procurement to order buses may pursue available remedies including suspension and/or debarment.

10. Contractor must complete Attachment 13 and submit it to VPTA with the bid or proposal.

11. Any Subcontractor whose total payments from the prime contractor, may exceed \$25,000 over the course of this contract, shall also complete Attachment 13. The prime contractor shall be responsible for obtaining this documentation and for submitting it with the bid or proposal.

23. Breaches and Dispute Resolution

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 the party having used the procurement to order buses. 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 party having used the procurement to order buses. 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 party having used the procurement to order buses shall be binding upon the Contractor and the Contractor shall abide by the decision.

Performance During Dispute - Unless otherwise directed by the party having used the procurement to order buses, Contractor shall continue performance under this Contract while matters in dispute are being resolved.

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 other party or of any of his employees, agents or others for whose acts he is legally liable, a claim for damages therefore shall be made in writing to such other party within a reasonable time after the first observance of such injury of damage.

Remedies - Unless this contract provides otherwise, all claims, counterclaims, disputes and other matters in question between the party having used the procurement to order buses and the Contractor arising out of or relating to this agreement or its breach will be decided in Chittenden Superior Court or the United States District Court for the Vermont District.

24. [Intentionally Omitted]

5.0 VPTA SPECIAL CONTRACT PROVISIONS

25. Disadvantaged Business Enterprises –Revenue Vehicles

Each transit vehicle manufacturer submits with their bid or proposal a TVM certification stating that they have submitted an annual DBE goal to the Federal Transit Administration and that it has either been approved or that to date it has not been disapproved.

Transit vehicle manufacturer shall also submit with their bid or proposal a print out of the FTA web site showing their firm's listing. Transit vehicle manufacturer shall also submit a current listing with every option order.

Transit vehicle manufacturers must comply with 49 CFR Parts 23 and 26 in order to be eligible to bid or propose.

Prompt Payment

The prime contractor agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than 30 days from the receipt of each payment the prime contractor receives from the party having used the procurement to order buses. The prime contractor agrees further to return retainage payments to each subcontractor within 30 days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of the party having used the procurement to order buses. This clause applies to both DBE and non-DBE subcontractors.

The party having used the procurement to order buses requires prime contractors to provide evidence of compliance with prompt payment including detailed copies of invoices, subcontractor invoices, and payment vouchers. Failure to comply with the prompt payment provisions may result in withholding monthly progress payments until the matter is resolved. Whenever possible, the party having used the procurement to order buses will provide the contractor with an opportunity to remedy the error or negotiate a fair remedial agreement.

Monitoring and Enforcement Mechanisms

Prime contractors shall be required to submit detailed invoices that include subcontractors invoices including DBE subcontractors. Prior to approval for payment, the project manager will review invoices for the extent to which performance has matched promises.

During the project duration, the project will be monitored for DBE participation based on DBE commitment at award. The project manager confirms DBE participation during construction, verifies DBE certified payroll reports, and invoices for work performed.

The party having used the procurement to order buses will bring to the attention of the Department of Transportation any false, fraudulent, or dishonest conduct in connection with the program, so that DOT can take the steps (e.g., referral to the Department of Justice for criminal prosecution, referral to the DOT Inspector General, action under suspension and debarment or Program Fraud and Civil Penalties rules) provided in §26.109. We also will consider similar action under our own legal authorities, including responsibility determinations in future contracts.

The party having used the procurement to order buses will enforce Section 26.13(b) remedies as indicated in our Procurement Policy and Procedures Manual.

The party having used the procurement to order buses will require prime contractors to maintain records and documents of payments to DBE's for three years following the performance of the contract. These records must be made available for inspection upon request by any authorized representative of the party

5.0 VPTA SPECIAL CONTRACT PROVISIONS

having used the procurement to order buses, the Vermont Agency of Transportation of USDOT. This reporting requirement also extends to any certified DBE subcontractor.

26. Equal Employment Opportunity for Non-Construction Contracts

The contractor agrees to comply with all requirements of Title VII of the Civil Rights Act of 1964, as amended, 42 U.S.C. § 2000e, and 49 U.S.C. § 5332 and any implementing requirements FTA may issue. Those equal employment opportunity (EEO) requirements include, but are not limited to, the following:

The Contractor agrees that it will not discriminate against any employee or applicant for employment because of race, color, creed, sex, disability, age, or national origin. The Recipient 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, sex, disability, age, or national origin. Such action shall include, but not be limited to, 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. The Contractor also agrees to comply with any implementing requirements FTA may issue.

The contractor will also insert this provision in all its sub-contracts.

27. [Intentionally Omitted]

28. Notification of Federal Participation

This contract is funded in part with funding from the United States Department of Transportation Federal Transit Administration (FTA). Eighty percent of the funding of this project is from the FTA.

29. Subcontracting and Assignability

Contractor shall not assign, sublet, pledge or transfer its rights under this Agreement, in whole or in part, nor delegate or subcontract any of its duties or obligations under this Agreement nor grant any licenses or concessions hereunder, without the prior written approval of the senior staff member of the party having used the procurement to order buses. Such approval may be withheld at the sole discretion of the party having used the procurement to order buses. Contractor shall advise the party having used the procurement to order buses before entering into any subcontract in relation to this contract and shall not enter into any subcontract to which the party having used the procurement to order buses has made timely objection. All subcontracts shall be in writing and each subcontractor shall, to the extent of the work or services to be performed by the subcontractor, assume toward the contractor all of the obligations and responsibilities that the contractor, by this contract, assumes toward the party having used the procurement to order buses. As used in this contract, the term “contractor” shall mean the contractor and any of its subcontractors. Nothing in this contract shall be deemed to establish a contractual relationship between a subcontractor and the party having used the procurement to order buses.

30. [Intentionally Omitted]

31. Approved Equals

In all cases, products must be furnished as specified, but where brand names are used, consider the term “approved equal” to follow. The discretion to approve equal substitutions rests solely with VPTA. It is the responsibility of the bidder to furnish sufficient technical detail to support its position that substitutions are equal.

Requests for approved equals, clarification of specifications, and protest of specifications must be received by VPTA c/o GMT, in writing, as per the procurement schedule in Section I “General Terms”. Any request

5.0 VPTA SPECIAL CONTRACT PROVISIONS

for an approved equal or protest of the specifications must be fully supported with all necessary technical data, test results, or other pertinent information. VPTA's response to requests will be provided by the date specified in the procurement schedule in Section I "General Terms". The bidder must demonstrate the equality of his product to VPTA in order that VPTA may determine whether the supplier's product is or is not equal to that specified. Parties dissatisfied with the decision of VPTA may utilize the appeal procedure set forth in VPTA's appeals clause.

"Request for Approved Equal" form is included as Attachment 17.

32. Additional Contractor's Insurance Requirements

- a. The Contractor shall obtain, maintain, and pay the premiums for insurance policies of the types and in the limits of not less than the following:

1) (a) Worker's Compensation and (b) Employer's Liability Insurance, which shall cover all the Contractor's Employees engaged in the performance of the work.

Worker's compensation shall be provided for all employees of the company, including owners, even if under State law owners are exempt from such insurance requirements. However, owners who have received an approved To Exclude Corporate Officers from Workers' Compensation Coverage, Form 29 and who submit it with their proposal to VPTA or the party having used the procurement to order buses are exempted from providing the coverage that the form approved. The party having used the procurement to order buses acknowledges that there are other methods for excluding owners from Workers' compensation, but has elected NOT to accept any other method.

2) Comprehensive General Liability Insurance Coverage with limits not less than required by the Umbrella Liability Insurance below and covering at least:

- (a) Operations – Premised Liability
- (b) Independent Contractor's Liability
- (c) Broad Form Contractor's Liability covering the Contractor's obligations
- (d) Personal Injury Liability including claims arising from employees of the Contractor
- (e) Broad Form Property Damage Liability
- (f) Product Liability Insurance (if providing goods or services)
- (g) Errors & Omissions Insurance - Design Liability
- (h) Comprehensive General Liability (including bodily injury and death)
- (i) Products and Completed Operations Insurance (with a provision that coverage shall extend for a period of at least two years from the date of final completion of the work, with the party having used the procurement to order buses being named as additional insured on this extension of coverage).

3) Comprehensive Automobile Insurance including property and liability coverage for all owned, hired, and non-owned vehicles with limits not less than One Million Dollars (\$1,000,000) Combined single limit.

4) Policy limits required for each line of coverage listed above in 1, 2 and 3 are \$1,000,000. the party having used the procurement to order buses will accept underlying line coverage, underlying with excess, or underlying with umbrella so long that the total (including umbrella or excess) for each line of coverage totals at least \$1,000,000.

5) Property insurance on a replacement cost basis of any real property owned by contractor and used in connection with this contract.

6) Professional Error & Omission coverage with a minimum limit of \$1,000,000 and a maximum deductible of \$5,000.

5.0 VPTA SPECIAL CONTRACT PROVISIONS

- 7) Contractor shall also obtain and maintain other policies of insurance of the types and limits that Contractor deems sufficient for its own protection.
- b. All such insurance as indicated above shall be provided by insurance companies having a Best's rating of not less than A:XII, as shown in the current issue of Best's Key Rating Guide, Property-Casualty.
 - c. Proof that such insurance coverage exists shall be furnished to the party having used the procurement to order buses in the form of certificates from the insurance companies before the Contractor commences any portion of the contracted work.

The party having used the procurement to order buses shall be endorsed as an additional insured under such policies with the exceptions of Contractor's worker's compensation policy and professional liability (if applicable).

Such certificates and/or endorsements shall provide that 15 days' notice in writing shall be given to the party having used the procurement to order buses prior to any change or cancellation of underlying policies due to non-payment of premium, and 45 days notice in writing shall be given to the party having used the procurement to order buses prior to any change or cancellation of underlying policies due to non-renewal.

- d. The Contractor and all of its insurers shall waive all rights of recovery or subrogation against the party having used the procurement to order buses and its insurance companies.
- e. The Contractor shall be responsible for compliance with all safety rules and regulations of the Federal Occupational Safety and Health Act of 1970 and those of all applicable State Acts, Laws, or Regulations during the conduct of the Contractor's performance of this Contract. The Contractor shall indemnify, defend and hold the party having used the procurement to order buses harmless from any fines, penalties, and corrective measures that result from the acts of commission or omission of the Contractor, its subcontractors, if any, and the contractor's and/or subcontractor's agents, employees and assigns for their failure to comply with such safety rules and regulations.
- f. The party having used the procurement to order buses will give to the Contractor prompt notice in writing of the institution of any suit or proceeding and permit the Contractor to defend the same, and will give all needed information, assistance, and authority to enable the Contractor to do so. The Contractor shall similarly give the party having used the procurement to order buses immediate notice of any suit or action filed or prompt notice of any claim arising out of the performance of the Contract. The Contractor shall furnish immediately to the party having used the procurement to order buses copies of all pertinent papers received by the Contractor.
- g. The Contractor shall require its subcontractors, if any, to obtain an amount of insurance coverage which is deemed adequate by the Contractor.
- h. The party having used the procurement to order buses reserves the right to inspect, in person, prior to commencement of the work, all of the Contractor's insurance policies in regard to insurance required herein.

33. Award Based on Initial Proposals

Awards to proposers may be made, at VPTA's sole discretion, without discussion of proposals with proposers. Proposals should be submitted initially on the most favorable terms possible, from a price and technical standpoint.

In addition, VPTA reserves the right to enter into negotiations with one or more proposers prior to Award. VPTA may also pursue splitting the award, awarding to multiple proposers, or any other method of award that VPTA deems to be in its best interest.

5.0 VPTA SPECIAL CONTRACT PROVISIONS

34. Metric System.

The Contractor understands that the Federal government, the USDOT or the FTA may issue guidelines, policies, or regulations requiring metric measurements in this project as may be required by 15 USC 205a (The Metric Conversion Act of 1975) and or Executive order 12770. The party having used the procurement to order buses may, to the extent it deems practicable and feasible, agree to accept products and services with dimensions expressed in the metric system.

35. Air Pollution

The successful bidder agrees to submit certification to VPTA that the air pollution regulations in the service area of the party having used the procurement to order buses will be met with the proposed vehicles along with other information required for the pre-award audit. Detailed tests results will accompany this certification to evidence that the air pollution criteria have been met. The party having used the procurement to order buses will retain this certification and evidence.

36. Compliance with the Americans with Disabilities Act

The vehicle(s) proposed must meet all applicable federal laws related to accessibility by persons with disabilities including those described in 49 CFR Part 38.

A certification, (Attachment 14) indicating that the federal requirements are fully met must be signed and submitted with the bid.

37. Liabilities Against the Party Having Used the Procurement to Order Buses

The Contractor agrees to indemnify, defend and hold the party having used the procurement to order buses harmless from any and all claims and lawsuits by third parties (including, but not limited to, employees and agents of the party having used the procurement to order buses and the Contractor), including the payment of all damages, expenses, penalties, fines, costs, royalties, charges and attorneys' fees incurred by the party having used the procurement to order buses which arise out of, or relate to Contractor's performance of the work required under this contract, whether concerning personal injury (or death), damage to property, or any other type of loss or claim, whether these claims or lawsuits are based upon negligence, intentional misconduct, breach of warranty, strict liability in tort, any failure by the contractor to comply with any laws pertaining to the contract documents, the use of patent appliances, products or processes, use of copyrighted materials, or any breach by the contractor of any of its other duties, representations, covenants, or the agreements in the contract documents. The Contractor will defend all suits brought upon all such claims and lawsuits and will pay all costs and expenses incidental thereto, but the party having used the procurement to order buses shall have the right, at its option, to participate in the defense of any suit, without relieving the Contractor of any of its obligations hereunder.

38. Order of Precedence - Proposal

In the event of inconsistency between provisions of this solicitation prior to the parties entering into a contract, the inconsistency will be resolved by giving precedence in the following order: 1) the VPTA project completion timeline for performance as set forth in the solicitation (if any); 2) solicitation instructions and technical specifications, if included; 3) VPTA General Contract Provisions and VPTA Special Contract Provisions, which are included in the solicitation documents; and 4) in the event of any inconsistencies between the technical specifications and a written request for approval that has been approved by VPTA, the request for approval will have precedence.

39. Order of Precedence – Contract

In the event of inconsistency between various documents that constitute the contract, the inconsistency will be resolved by giving precedence in the following order: 1) any modifications approved by the party having used the procurement to order buses after the contract was signed; 2) any contract documents the party

5.0 VPTA SPECIAL CONTRACT PROVISIONS

having used the procurement to order buses executes to award the contract (such as a purchase order, letter of contract award, or negotiated contract signed by both parties); 3) the Contractor's proposal including any approved equals or modifications approved by VPTA; and 4) the solicitation.

40. Use of the Name of the Party Having Used the Procurement to Order Buses in Contractor Advertising or Public Relations

The Contractor will not allow the logo(s) of the party having used the procurement to order buses or any of said party's related copy to be published in the Contractor's advertisements or public relations programs without said party's written approval and then only upon submitting such material to said party for review. The Contractor will agree that published information on said party or its services will be factual and in no way imply that VPTA and/or said party endorsed the Contractor's firm, service, or product.

41. [Intentionally Omitted]

42. Protest Procedures.

Any bidder wishing to protest prior to or after the award of a contract must follow VPTA's protest procedures contained below. Deadlines in protest procedures must be adhered to otherwise VPTA will not consider the protest. In addition, the protest must include a statement that it is a protest, otherwise it will not be considered a protest.

Protests concerning GMT's purchasing policies, the contract requirements, the specifications, the bidding procedures, or the contract award, or any other request for explanation or clarification must be submitted in writing and must include the following information:

- The name and address of the protester.
- The name and telephone number of the protester's contact person having responsibility.
- A complete statement of the grounds of the protest with full documentation of the protester's claim.

a. Pre-award Protests

Pre-award protests must be received by VPTA no less than ten (10) working days before the scheduled bid opening. VPTA will respond to the protest in writing and render its final decision at least five (5) working days prior to bid opening. VPTA will report such protests to the FTA regional office.

b. Post-award Protests

Post-award protests will be received no later than five (5) working days after notification of the award bid. VPTA will have ten (10) working days after receipt of the formal protest package to evaluate, and issue a response, except in cases where the original bid has been awarded by the Board. In such cases, the decision to protest will be handled at the next regularly scheduled Board meeting, following completion of the staff review of the protests. VPTA will report such protests to the FTA regional office.

c. Appeals to FTA

It is the responsibility of VPTA to settle contract issues and disputes. VPTA is committed to using good sound administrative practices and business judgments, as well as professional ethics. Reviews of protests by FTA will be limited to alleged failure by VPTA to have followed proper protests procedures, or its failure to review a complaint or protest. Protesters dissatisfied with VPTA's final decision may appeal to FTA regional or Headquarters Office within five (5) working days of the date the protester knew or should have known of the violation.

40 - U.S. DOT FTA Circular 4220.1F § 7l

41 - U.S. DOT FTA Circular 4220.1F § 7k and 7l

5.0 VPTA SPECIAL CONTRACT PROVISIONS

43. Addenda Acknowledgement

The bidder must complete and submit with the Bid an Addenda Acknowledgement Form acknowledging receipt of all bid addenda issued by VPTA. Acknowledge receipt of addenda on Attachment 15.

44. Terms of Payment

The entity having used this procurement to order buses shall make payment to the Contractor within 60 days after acceptance of each vehicle. The entity having used this procurement to order buses reserves the right to withhold full payment as outlined in the provisions contained within the section entitled Conditional Acceptance. The Contractor's invoice for the vehicles, and/or spare parts, and/or equipment, and/or optional warranties will be submitted to the entity having used this procurement to order buses within 30 days prior to the scheduled delivery of the vehicles.

An invoice shall be submitted for each vehicle. Each invoice must include the following:

- Contract Number
- Serial Number of Vehicle
- Procuring Agency Fleet Number of Vehicle
- Serial Number of the Engine
- Serial Number of Transmission
- Cost of Optional Warranties
- Total Invoice Amount

The entity must have a Certificate of Origin from the Contractor at least fifteen (15) calendar days prior to shipment.

Documents for securing the vehicle title and registration in the State of Vermont shall be provided to the entity having used this procurement to order buses prior to release of payment for vehicles. The Contractor warrants that the title shall pass to the entity having used this procurement to order buses free and clear of all liens, mortgages and encumbrances, financing statements, security agreements, claims and demands of any character.

45. [Intentionally Omitted]

46. Bidders Checklist

Bidders must fill out the bidder's checklist in Attachment 16.

47. [Intentionally Omitted]

48. ITS Compliance

To the extent applicable, the Contractor agrees to conform to the National Intelligent Transportation Systems (ITS) Architecture and Standards as required by SAFETEA LU § 5307(c), 23 U.S.C. § 512 note, and comply with FTA Notice, "FTA National ITS Architecture Policy on Transit Projects" 66 Fed. Reg. 1455 et seq., January 8, 2001, and any subsequent further implementing directives, except to the extent FTA determines otherwise in writing.

49. [Intentionally Omitted]

50. [Intentionally Omitted]

5.0 VPTA SPECIAL CONTRACT PROVISIONS

Attachment 3

**BUY AMERICA CERTIFICATE OF COMPLIANCE WITH FTA REQUIREMENTS
FOR BUSES, OTHER ROLLING STOCK, OR ASSOCIATED EQUIPMENT**

Certificate of Compliance with Section 165(b)(3)

The bidder or offeror hereby certifies that it will comply with the requirements of section 165(b)(3), of the Surface Transportation Assistance Act of 1982, as amended, and the regulations of 49 CFR 661.11.

Date _____

Signature _____

Company Name _____

Title _____

Certificate for Non-Compliance with Section 165(b)(3)

The bidder or offeror hereby certifies that it cannot comply with the requirements of section 165(b)(3) of the Surface Transportation Assistance Act of 1982, as amended, but may qualify for an exception to the requirement consistent with section 165(b)(2) or (b)(4) of the Surface Transportation Assistance Act, as amended, and regulations in 49 CFR 661.7.

Date _____

Signature _____

Company _____

Name _____

Title _____

5.0 VPTA SPECIAL CONTRACT PROVISIONS

Attachment 4

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned, _____
_____ as PRINCIPAL, and _____ as Surety, are hereby held and
firmly bound unto Vermont Public Transportation Association (VPTA) as OWNER in the penal sum of
_____ for the payment of which, well and truly to be made, we hereby jointly
and severally bind ourselves, successor and assigns.

Signed, this _____ day of _____, 20__.

The Condition of the above obligation is such that whereas the PRINCIPAL has submitted to VPTA a
certain Bid, attached hereto and hereby made a part hereof to enter into a contract in writing, for the

(Name of Project)

NOW, THEREFORE,

- (a) If said BID shall be rejected, or in the alternate,
- (b) If said BID shall be accepted and the PRINCIPAL shall execute and deliver a contract in the Form of Contract attached hereto (properly completed in accordance with said BID) and shall furnish a bond for his faithful performance of said contract, and for the payment of all persons performing labor or furnishing materials in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said BID, then this obligation shall be void, otherwise the same shall remain in force and effect; it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation herein stated.

5.0 VPTA SPECIAL CONTRACT PROVISIONS

Attachment 4 (continued)

BID BOND (continued)

The Surety, for value received, hereby stipulates and agrees that the obligations of said Surety and its bond shall be in no way impaired or affected by any extension of the time within which the OWNER may accept such Bid; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the PRINCIPAL and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper offices, the day and year first set forth above.

Principal

Surety

By: _____

IMPORTANT: Surety companies executing bonds must appear on the Treasury Department's most current list (Circular 570 as amended) and be authorized to transact in business in the State of Vermont where the project is located.

5.0 VPTA SPECIAL CONTRACT PROVISIONS

Attachment 8

CERTIFICATION OF COMPLIANCE WITH FTA'S BUS TESTING REQUIREMENTS

The undersigned [Contractor/Manufacturer] certifies that the vehicle offered in this procurement complies with 49 U.S.C. A 5323(c) and FTA's implementing regulation at 49 CFR Part 665.

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 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.

Date: _____

Signature: _____

Company Name: _____

Title: _____

5.0 VPTA SPECIAL CONTRACT PROVISIONS

Attachment 9

Pre-Award FMVSS Certification

As required by 49 CFR 663, _____
certifies that our _____ model bus, as proposed for delivery to
VPTA, complies with the relevant Federal Motor Vehicle Safety Standards issued by the National
Highway Traffic Safety Administration in 49 CFR, Part 571.

Date _____

Signature _____

Company Name _____

Title _____

5.0 VPTA SPECIAL CONTRACT PROVISIONS

Attachment 10

Post Delivery FMVSS Certification

As required by 49 CFR 663, _____
certifies that our _____ model bus, as delivered to VPTA
complies with the relevant Federal Motor Vehicle Safety Standards issued by the National Highway Traffic
Safety Administration in 49 CFR, Part 571.

Date _____

Signature _____

Company Name _____

Title _____

5.0 VPTA SPECIAL CONTRACT PROVISIONS

Attachment 11

Lobbying Certification

The undersigned [Contractor] certifies, to the best of his or her knowledge and belief, that:

(1) 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 an agency, a Member of Congress, an 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.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for making lobbying contacts to an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this 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 [as amended by "Government wide Guidance for New Restrictions on Lobbying," 61 Fed. Reg. 1413 (1/19/96). Note: Language in paragraph (2) herein has been modified in accordance with Section 10 of the Lobbying Disclosure Act of 1995 (P.L. 104-65, to be codified at 2 U.S.C. 1601, et seq .)]

(3) The undersigned shall require that the language of this certification be included in the award documents for all sub awards at all tiers (including subcontracts, 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 \$150,000 for each such failure.

[Note: Pursuant to 31 U.S.C. § 1352(c)(1)-(2)(A), any person who makes a prohibited expenditure or fails to file or amend a required certification or disclosure form shall be subject to a civil penalty of not less than \$10,000 and not more than \$150,000 for each such expenditure or failure.]

The Contractor, _____, certifies or affirms the truthfulness and accuracy of each statement of its certification and disclosure, if any. In addition, the Contractor understands and agrees that the provisions of 31 U.S.C. A 3801, et seq., apply to this certification and disclosure, if any.

_____ Signature of Contractor's Authorized Official

_____ Name and Title of Contractor's Authorized Official

_____ Date

5.0 VPTA SPECIAL CONTRACT PROVISIONS

Attachment 13

Certification Regarding Debarment, Suspension, and Other Responsibility Matters-- Covered Transactions

This form shall be completed by the prospective prime contractors AND prospective subcontractors, whose contract amount MAY exceed \$25,000 over the life of the contract.

(1) The prospective lower tier participant (potential contractor or subcontractor) _____ certifies to the best of its knowledge and belief, that it and its principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded by any Federal department or agency;

(b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for 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; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(c) Are 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 enumerated in paragraph (1)(b) of this certification; and

(d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

(2) Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

The prospective lower tier participant (potential contractor or subcontractor) _____ certifies or affirms the truthfulness and accuracy of the contents of the statements submitted on or with this certification.

_____ Signature of Contractor's Authorized Official

_____ Name and Title of Contractor's Authorized Official

_____ Date

5.0 VPTA SPECIAL CONTRACT PROVISIONS

Attachment 14

Certification Regarding Compliance with the Americans with Disabilities Act for Revenue Vehicles

_____ certifies that all vehicles
manufactured and delivered to VPTA will be in full compliance with the Americans with
Disabilities Act.

_____ Signature of Contractor's Authorized Official

_____ Name and Title of Contractor's Authorized Official

_____ Date

5.0 VPTA SPECIAL CONTRACT PROVISIONS

Attachment 15

Addenda Acknowledgement Form

Addenda received

Addendum No: _____ **Date Received:** _____

_____ Signature of Contractor's Authorized Official

_____ Name and Title of Contractor's Authorized Official

_____ Date

5.0 VPTA SPECIAL CONTRACT PROVISIONS

Attachment 16

Bidders Checklist

This form must be completed and returned with the submission of bid documents. The bidder must use this checklist to help ensure all required certifications, affidavits, and documentation are provided. If the referenced attachment is not required, the bidder must right "N/A" in the check off space.

Description of Attached Documents	Bidder Check Off	VPTA Check off
Attachment A: Affidavit of Non-Collusion	_____	_____
Attachment B: Firm Information for VPTA's Bidders List	_____	_____
Attachments 1-2: [Intentionally Omitted]	_____	_____
Attachment 3: Buy America Certification for rolling stock and related purchases.	_____	_____
Attachment 4: Bid Bond or Proposal Guarantee or Irrevocable Letter of Credit	_____	_____
Attachments 5-7: [Intentionally Omitted]	_____	_____
Attachment 8: Compliance with FTA's Bus Testing Requirements	_____	_____
Altoona Bus Testing Report(s)	_____	_____
Attachment 9: Pre-Award FMVSS Certification	_____	_____
Attachment 10: Post Delivery FMVSS Certification	_____	_____
Attachment 11: Lobbying Certification	_____	_____
Attachment 12: [Intentionally Omitted]	_____	_____
Attachment 13: Debarment, Suspension, and Other Responsibility Matters	_____	_____
Attachment 14: Compliance with the Americans with Disabilities Act for Revenue Vehicles	_____	_____
Attachment 15: Addenda Acknowledgement Form	_____	_____
Attachment 16: Bidder's Checklist	_____	_____
Attachment 17: Approved Equals Request Form	_____	_____
DBE TVM Certificate of Compliance	_____	_____
TVM Printout from FTA Web Site for Current Year	_____	_____

_____ Signature of Contractor's Authorized Official

_____ Name and Title of Contractor's Authorized Official

_____ Date

