



CONTRACT FOR BUS TESTING

No.: _____.

Task Order No. _____

THIS CONTRACT made on _____, by and between The Pennsylvania State University, a non-profit university and an instrumentality of the Commonwealth of Pennsylvania with principal offices at University Park, Centre County, Pennsylvania, acting by and through The Thomas D. Larson Pennsylvania Transportation Institute, hereinafter called “**Operator**” and _____, hereinafter called “**Manufacturer**”.

BACKGROUND:

A. Operator under contract with the Federal Transit Administration hereinafter called “FTA”, operates a bus testing facility in accordance with the provisions of the Federal Transit Act. The Bus Testing Program is authorized at 49 USC Section 5318. FTA manages the Bus Testing Program according to the Bus Testing Regulation, 49 CFR Part 665 as amended, and the Proposed Rule Making, Interim Final Rule and Final Rules and Regulations on Bus Testing promulgated in accordance therewith, as from time to time enacted, made effective or amended (“Regulations”).

B. Manufacturer desires to contract with Operator to have Operator perform testing in accordance with the formal determination letter provided to the Manufacturer by the FTA on a _____ model bus, hereinafter called “**Bus**”, owned by Manufacturer as contemplated by Surface Transportation and Uniform Relocation Assistance Act (STURAA) and the Regulations.

C. Operator and Manufacturer hereby enter into this Contract to accomplish the above purposes.

NOW, THEREFORE, in consideration of the mutual terms contained in this Contract and intending to be legally bound Operator and Manufacturer hereby agree as follows:

1. AUTHORITY AND TERMS

Operator and Manufacturer hereby incorporate in this Contract by this reference the matters set forth in the BACKGROUND paragraphs above, including the applicable provisions of Federal Transit Act, as amended, and the FTA Bus Testing Regulations. It is further agreed that the defined words and terms as used in the Regulations shall also be used herein.

2. DUTIES OF OPERATOR

Operator shall perform all required testing of Manufacturer’s Bus in accordance with the FTA Regulations and the established testing procedures used at the bus testing facility and provided to Manufacturer which procedures are attached hereto marked Exhibit A and fully described and incorporated herein by this reference.

3. DUTIES OF MANUFACTURER

Manufacturer shall:

A. At its sole expense, deliver the Bus on _____ or within seven (7) days of this date to the Altoona Bus Research and Testing Center, 2237 Plank Road, Duncansville, Pennsylvania.

- The Bus shall be delivered in such condition that testing can immediately commence.
- Manufacturer shall arrange for unloading of Bus, including all parts and equipment.
- The Bus shall be certified to be roadworthy and shall be licensed in such a manner as shall be valid in the Commonwealth of Pennsylvania for operation of the Bus at the testing facility or over the road between testing facility locations.
- The Bus shall meet all Federal Motor Vehicle Safety Standards as promulgated by the National Highway Traffic Safety Administration in 49 CFR Part 571.
- An agent of Manufacturer shall be present at the time of delivery of the Bus to Operator.
- The Bus shall be delivered with:
 - (i) a spare parts kit containing filters, one set of mounted tires, suspension components, special lubricants and other such items contemplated to be used, consumed, or replaced during the scope of the testing procedures, but not to include ordinary fuel and lubricants which shall be supplied by Operator.
 - (ii) all operator's manuals, maintenance manuals, parts manuals, all safety manuals and procedures (electric vehicle, alternative fuel, etc.) and wiring schematics applicable to the Bus which shall include the recommended servicing procedures and specifications to be used in the course of safe repair and maintenance and operation of the Bus.
 - (iii) all special tools, nozzles, adapters, and fixtures required for repairs, adjustments, fueling, charging and towing relating to the Bus.

B. At its sole expense, load and transport the Bus from the testing facility at the completion of the testing.

4. FEES

Manufacturer shall pay to Operator as its portion of the fee for testing the sum of _____ (\$ _____) dollars, which shall be due in full at the time of the delivery of the Bus, and in any event shall be paid in full prior to the commencement of any test procedures.

Said sum represents a twenty (20%) percent portion of the test fee as set forth in accordance with the Schedule of Fees attached to as Exhibit B.

The remaining eighty (80%) percent of the test fee is paid to the Operator by the FTA pursuant to the terms of 49 CFR Part 665, as amended and regulations promulgated or to be promulgated thereunder. The FTA's fee subsidy is intended to reimburse the Operator for test procedures performed and applies only to the standard fee schedule which includes the normal cost for testing, vehicle servicing, routine maintenance, and fuel.

This does not include any non-fee costs or expenses incurred during testing. Manufacturer understands it shall, in addition to the amount previously set forth, pay any said costs and expenses including, but not limited to, those associated with non-routine maintenance or extraordinary repairs as provided in Paragraph 8 hereof. Note this includes any additional fees as outlined in Exhibit B.

All such non-fee costs and expenses due from the manufacturer shall be paid to the Operator prior to the completion of the testing program and issuance of the test report.

In the event that the testing program is terminated, and the Bus is withdrawn from the facility by the Manufacturer before the completion of the testing, Manufacturer may be entitled to a refund of a portion of the fee amount paid by Manufacturer to Operator for testing procedures not completed as more fully set forth in Exhibit B.

5. DURATION OF TESTING

The anticipated time for completing the testing will be within _____ days of when testing on the Bus commences, subject to:

(i) Extension for a time equivalent to any period of mechanical breakdown of the Bus or other matter beyond the control, such as delays in parts availability or technical decisions of Operator which shall cause a delay in the performance of the testing.

(ii) Extension for a time equivalent to any period of delay. In the event of any delay, resumption of testing shall be scheduled by the Operator subject to the availability of the test facility and personnel, and the time for completion of the testing shall be extended to accommodate such scheduling.

Operator shall provide reasonable notice to Manufacturer of any Operator-created delays which cause an extension of the completion date. In the event of a delay of more than ten (10) days, Operator will send a written notification that provides a new expected test completion date to Manufacturer 's Technical Service Contact, as identified in Article 10. **All testing shall be completed within one year from the delivery date, as identified in Article 3.A., unless extended by written notification signed by the duly authorized representative of both parties.**

6. TERMINATION OF TESTING BY MANUFACTURER

Manufacturer shall have the right to terminate the test program at any time before completion of testing by providing written notification to Operator, in which event Manufacturer shall be responsible for the fees of any tests completed or portion of tests completed as of date of notification from Manufacturer as set forth in Exhibit B hereof.

7. TERMINATION OF TESTING BY OPERATOR

Operator shall have the right to terminate the test program at any time for cause, by providing written notification describing cause to Manufacturer, in which event Manufacturer shall be responsible for the fees of any test completed or portion of tests completed as of date of notification from Operator as set forth in Exhibit B hereof.

Cause shall include:

- (i) A breach of any obligation of Manufacturer under the terms of this Contract.
- (ii) Nonpayment of any fees, costs, or expenses.
- (iii) Technical or mechanical problems which, in the judgment of Operator, make continuation of testing unsafe.
- (iv) The failure of Manufacturer to supply equipment, parts, or material necessary for repairs as required by this Contract.
- (v) Any other just cause.

8. MAINTENANCE AND REPAIRS

Operator shall perform all routine maintenance and ordinary repairs on the Bus consistent with the Manufacturer's specifications to be delivered to Operator in accordance with Paragraph 3A hereof.

Any non-routine maintenance and extraordinary repairs required to be performed on the Bus shall be done at the sole cost and expense of Manufacturer; provided, however, that any such non-routine maintenance or extraordinary repairs required to be performed on a Bus which arise solely from Operator's negligent maintenance of a Bus shall be performed at the sole cost and expense of the Operator.

In the event of the necessity for non-routine maintenance or extraordinary repairs not of an emergency nature, Operator shall provide Manufacturer reasonable notice thereof before commencing such maintenance or repairs.

Any non-routine maintenance or extraordinary repairs of an emergency nature may be performed by Operator and notice thereof shall be given to Manufacturer as soon as practical thereafter.

Manufacturer shall pay Operator for all costs of labor and materials necessary to perform non-routine maintenance and repair services for which Manufacturer is responsible.

Any maintenance or repair or change in operating parameters to be performed by the Manufacturer must be pre-approved by Operator and conducted under the direct observation of the Operator.

All parts, equipment or supplies necessary for such repairs and maintenance shall be furnished without charge to Operator by Manufacturer within twenty-four (24) hours after Operator's notification to Manufacturer of the need for such parts, equipment, or supplies.

9. OBSERVATION OF TESTING

Manufacturer will provide request to Operator that includes names of any Manufacturer representatives that will be visiting and/or observing testing. Operator will provide approval or denial to request prior to permitting any Manufacturer representatives access to facilities. Manufacturer shall have the right to observe any and all testing, provided that nothing contained herein shall allow Manufacturer to alter the scheduling of testing which scheduling shall be solely within the control of Operator.

Manufacturer's access to the Bus during testing for the purpose of data collection, repair or maintenance is solely at the discretion of the Operator.

Operator shall provide space at the test facility which will be available to Manufacturer for on-site personnel to observe testing.

Manufacturer representatives who do not comply with the requirements in Articles 8 and 9 may be barred from the test site.

Manufacturer agrees to comply with all Operator policies and procedures relevant to external visitors including Health and Safety Provisions. Applicable Health and Safety provisions are located at the following link: https://www.research.psu.edu/Health_Safety_Addendum_Contract_Terms.

10. DESIGNATION OF TECHNICAL SERVICE CONTACT

Manufacturer hereby designates the following individual as the principal technical service contact of Manufacturer with respect to the testing to be performed hereunder:

Name: _____

Title: _____

Address: _____

Phone: _____

Email: _____

If Manufacturer is receiving support from strategic partnering with an external entity during the duration of testing, and Manufacturer wishes to authorize Operator to communicate directly with the external strategic partner, Manufacturer must identify strategic partner(s) below:

EXTERNAL STRATEGIC PARTNERS –

Manufacturer hereby authorizes the Operator to communicate and discuss testing to be performed hereunder with the external strategic partner(s) contact identified below:

Contact Name: _____

Phone: _____

Email: _____

Detail relationship between Manufacturer and external strategic partner: _____

Operator will limit test-related communications to the external strategic partner contacts(s) listed above. If additional external strategic partners are identified by the Manufacturer after execution of this Contract, the Manufacturer must provide written notification from their authorized official, including the same information as above, to the Operator Contract identified in Article 15.

11. TEST REPORTS

Upon completion of testing, the Operator shall prepare a test report which shall state the results of the test(s) performed on each Bus and shall provide that test report to the Manufacturer not later than the forty-fifth (45th) day following the completion of testing. The test report shall be available to the public on or after the sixtieth (60th) day following the completion of testing unless:

- (i) The Manufacturer provides written notification to the Operator within ten (10) days of receiving test report from Operator indicating that the Bus has been withdrawn from the market and that no buses have, or will be delivered to an FTA funded recipient, in which event the test report will not be made available to the public; or
- (ii) The Manufacturer provides written notification to the Operator within ten (10) days of receiving test report from Operator indicating that the Bus has not been delivered to an FTA funded recipient, and further setting forth the date upon which the Bus is scheduled to be delivered, in which event that date of delivery provided by the Manufacturer will be the date when the test report is made available to the public.

12. INSURANCE

Manufacturer, and any of its Subcontractors, shall at its own expense, carry and maintain the following insurance or self-insurance during the term of this Contract, in amounts not less than that specified for each type.

The limits required for the Employers' Liability, Automobile Liability and Commercial General Liability coverages may be satisfied through primary insurance or any combination of primary and umbrella/excess liability insurance as long as the umbrella/excess liability insurance follows the form of the primary coverage.

Failure to procure the following insurance or self-insurance shall not relieve the Manufacturer, and any Subcontractor thereof, of any obligation or liability assumed under the Contract, nor of any obligation or liability imposed by law. In no event shall the liability of the manufacturer be limited to the extent of any insurance or self-insurance or the minimum limits required herein, or the Contract value. Any self-insured retentions, deductibles, and exclusions in coverage in the insurance required shall be assumed by and at the sole risk of the Manufacturer.

The Manufacturer or its insurers must provide thirty (30) days advanced written notice to the Operator of any cancellation or material reduction in the required insurance or self-insurance programs below.

Workers' Compensation for statutory obligations imposed by workers' compensation and occupational disease laws.

Employers' Liability insurance shall be provided with limits of not less than \$500,000 for each subcategory of coverage.

Automobile Liability insurance (Bodily Injury Liability and Property Damage Liability) for all owned, leased, hired, non-owned vehicles with limits not less than \$2,000,000 Combined Single Limit. Such insurance shall also provide physical damage coverage on any vehicle delivered to the Operator for testing. Such physical damage coverage shall include collision and comprehensive insurance in an amount not less than the actual cash value of the vehicle.

Commercial General Liability insurance including coverage for bodily injury, property damage, and personal injury for premises and operations, products and completed operations, and contractual liability arising from all operations, written on an occurrence basis with limits not less than \$2,000,000, and which must apply to ongoing operations. **"The Pennsylvania State University"** must be named as an additional insured.

Insurance coverages must be written with an insurer rated not less than A- by A. M. Best.

An Insurance Certificate evidencing the above required insurance coverages, limits, and the Commercial General Liability additional insured provision, must be provided to the Operator at the time of delivery of this Contract. The Certificate Holder must be as follows:

The Pennsylvania State University
c/o Risk Management Office
Rider Building – Suite 103
227 West Beaver Avenue
State College, PA 16801

13. INDEMNIFICATION

Manufacturer further agrees to indemnify and hold Operator harmless from and against any and all claims and demands for or in connection with any accident, injury or damage whatsoever caused to any person or property arising, directly or indirectly, out of the testing, maintenance, repairs or operation of the Bus, and from and against any and all costs and expenses, including reasonable attorney fees, incurred in connection with any such claim, demand or proceeding brought thereon.

14. CHOICE OF LAWS

This Contract shall be governed by the laws of the United States of America and the Commonwealth of Pennsylvania.

15. NOTICES

Any notices provided for in this Contract and delivered hereunder shall be deemed made as of the day of receipt of notice:

Operator: Director, Center for Bus Research and Testing
The Pennsylvania State University
The Thomas D. Larson
Pennsylvania Transportation Institute
201 Transportation Research Building
University Park, Pennsylvania 16802

Email: _____ jmn33@psu.edu _____

Manufacturer: _____

Email: _____

16. MISCELLANEOUS

This is the entire Contract between the parties with respect to the subject matter hereof. Any changes, modifications or waivers of any terms shall not be effective unless in writing and signed by the parties. This Agreement shall be binding on the parties, their respective heirs, successors, administrators, and assigns. The section headings in this Contract are for reference only and shall not be considered for purposes of construing or interpreting the Contract.

IN WITNESS WHEREOF, the parties have executed this Contract the day and year first above written.

By an Authorized Official of Operator
The Pennsylvania State University

By an Authorized Official of Manufacturer

Name (Printed): _____

Name (Printed): _____

Title: _____

Title: _____

Date: _____

Date: _____

Exhibit A

Maintainability

There are three procedures that comprise this test sequence.

Accessibility of Components and Subsystems: The objective of this test is to check the general accessibility of components and subsystems. Items that are checked are ones that would typically require maintenance or repair during transit service.

Servicing, Preventive Maintenance, and Repair Maintenance: The objective of this test is to collect data about the servicing, preventive maintenance, and repair of the vehicle.

Replacement and/or Repair of Selected Subsystems: The objective of this test is to identify the time required to replace and/or repair selected parts or subsystems.

Reliability

The objective of this test is to evaluate the reliability of the bus by documenting unscheduled breakdowns, repairs, down time, and repair time that occur during testing.

Safety

Double Lane Change

The objective of this test is to determine handling and stability characteristics of the bus by measuring the forward speed through a double lane change, obstacle avoidance course.

Brake Performance

The objective of this test is to demonstrate the ability of the parking brake to hold the bus on a 20 percent grade and to measure the stopping distance required when the service brakes are activated at various speeds.

Performance

The performance test includes the following:

Acceleration — Using a large-roll chassis dynamometer, the vehicle is accelerated and the speed verses time data is recorded and plotted.

Gradeability — From the acceleration data, the gradeability is calculated at 5-mile-per-hour increments.

Top Speed — The top speed obtained on the dynamometer is recorded. It is noted whether the top speed is power-limited or governed.

Structural Integrity & Durability

There are six procedures that comprise this testing sequence.

Distortion: The objective of this test is to observe the operation of various subsystems when the bus is placed in a longitudinal twist (simulating operation over a 6-inch curb or through a 6-in pothole) and subjected to a water spray mechanism simulating rain and traffic spray.

Static Tow: The objective of this test is to determine the strength characteristics of the bus towing fixtures during static loading conditions.

Dynamic Tow: The objective of this test is to verify the integrity of the towing fixtures and determine the feasibility of towing the bus using a heavy-duty wrecker and specified procedures.

Jacking: The objective of this test is to determine the damage caused by a deflated tire and to determine the feasibility of jacking the bus with a portable hydraulic jack to a height sufficient to replace a deflated tire.

Hoisting: The objective of this test is to determine possible damage or deformation caused by the jack stands on the jacking pads.

Durability: The objective of this test is to perform an accelerated durability test that approximates up to 25 percent of the service life of the vehicle.

Fuel/Energy Economy

Fuel Economy

The objective of this test is to provide accurate comparable fuel consumption data on transit buses produced by different manufacturers. This test bears no relation to the calculations done by the Environmental Protection Agency. The results of this test will not represent actual "in service" fuel economy but will provide comparative data.

The test is performed using a large-roll chassis dynamometer.

Energy Economy (Battery Electric Buses)

The objective of this test is to provide accurate comparable energy consumption data on battery electric transit buses produced by different manufacturers. This energy economy test bears no relation to the calculations done by the Environmental Protection Agency (EPA) to determine levels for the Corporate Average Fuel Economy (CAFE) Program. EPA's calculations are based on tests conducted under laboratory conditions intended to simulate city and highway driving. This energy economy test, as designated here, is a measurement of the energy consumed by a vehicle traveling a specified test operating profile, under specified operating conditions that are typical of transit bus operation. The results of this test will not represent actual mileage but will provide data that can be used by FTA Grantees to compare buses tested using this procedure.

The test is performed using a large-roll chassis dynamometer.

Noise

There are two procedures that comprise this test sequence.

Interior Noise: The objective of these tests is to measure and record interior noise levels and check for audible vibration under various operating conditions.

Exterior Noise: The objective of this test is to record exterior noise levels when a bus is operated under various conditions.

Emissions

The objective of this test is to provide accurate, comparable gas and particulate emissions data for transit buses produced by different manufacturers while operating the vehicle over a simulated transit duty cycle on a dynamometer. The test will be performed on an engine after the bus has accumulated several thousand miles of operation, thus providing a more realistic indication of the level of emissions that can be expected in actual transit service. The results of this test may be used by transit operators for making relative comparisons between buses. The test is performed using a large-roll chassis dynamometer.

Please Note: This is not the same procedure that is used to meet the Environment Protection Agency (EPA) for engine certification.

For full descriptions of all above test procedures, please go to the Penn State Bus Testing homepage:
www.altoonabustest.psu.edu/bus-tests

Exhibit B

Time and Fee Schedule for Bus Testing

- Totals in bottom two rows represent full testing (and manufacturers 20% portion) and reflect set-up cost saving realized by combining the tests performed on the dynamometer.
- Days indicate approximate time for test completion not including downtime due to reliability problems, parts deliveries, weather, and items beyond the control of operator.
- Reliability and Maintainability cost and time are included in the Structural Durability Test.
- Fee for performance test only will be \$10,000; fuel economy test only will be \$16,000; and performance and fuel economy tests together will be \$19,000.
- Fuel surcharge is determined based on type of fuel, category of bus, and date of contract.
- Manufacturer's portion of the test fee shall pay for the first twenty percent (20%) of the test cost incurred. Prorated Refund: If manufacturer withdraws the bus from testing before the first twenty percent of the test costs have been incurred, Manufacturer is entitled to a refund for tests not performed equivalent to \$785 times the days required to complete the first twenty percent of the test schedule; if the bus is withdrawn after the first twenty percent of testing is completed, manufacturer is entitled to no refund. Non-routine maintenance, extraordinary repairs, and Operator's observation of maintenance performed by manufacturer shall be billed at actual time expended and cost of materials.
- Any additional testing that results in a failing test score may require additional testing as determined by the FTA. Additional tests required to obtain a passing score (re-testing) will be billed to the manufacturer according to the established Time and Fee Schedule.
- In the event that the FTA determines that additional durability testing is required due to a structural failure or reliability concern, manufacturer will be responsible for paying a portion of the durability test fee set forth as follows:
 - The cost for extended durability testing will be based on the per-mile structural durability test cost for that service-life category and the number of miles required by the FTA for each durability segment (loading condition). The total number of extended durability miles required will be determined by the FTA on a case-by-case basis.

SAMPLE