

**Chris Christie**, Governor  
**Kim Guadagno**, Lieutenant Governor  
**Jamie Fox**, Board Chairman  
**Veronique Hakim**, Executive Director

**NJ TRANSIT**  
One Penn Plaza East  
Newark, NJ 07105-2246  
973-491-7000

May 8, 2015

To Whom it May Concern:

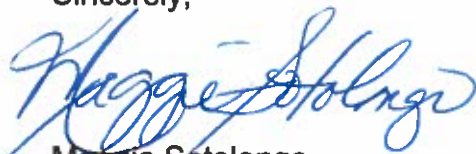
**Re: NJ TRANSIT Invitation for Bid No. 15-021  
Fuel Trucks for Emergencies  
Superstorm Sandy Recovery and Resilience Program  
Addendum No. 1**

The following constitutes Addendum No. 1 and must be acknowledged with each bid. Prospective bidders are advised of the following clarifications, additions and/or revisions to the above referenced Invitation for Bid:

1. Enclosed for Bidders information is a Pre-Bid Data Sheet summarizing information discussed at the Pre-Bid Conference is included as Attachment A.
2. The Attendance Sheet from the Pre-Bid Conference held May 7, 2015 is included as Attachment B.

This concludes Addendum No. 1. An authorized representative of your organization shall acknowledge receipt of this Addendum in the Exhibit provided with its bid. Failure to acknowledge receipt of all Addenda may cause the rejection of the Bid as non-responsive.

Sincerely,



Maggie Sotolongo  
Senior Contract Specialist  
Procurement Department

Enc.

## **Attachment A**

### **Invitation for Bid No. 15-021 Fuel Trucks for Emergencies Superstorm Sandy Recovery and Resilience Program**

**INVITATION FOR BID (IFB) NO 15-021  
FUEL TRUCKS FOR EMERGENCIES  
SUPERSTORM SANDY RECOVERY AND RESILIENCE PROGRAM  
PRE-BID CONFERENCE AGENDA**

**THURSDAY, MAY 7, 2015**

**Agenda**

- |                                 |   |
|---------------------------------|---|
| I. Introduction                 | Maggie Sotolongo, Senior Contract Specialist                      |
| II. Proposal Process            | Maggie Sotolongo, Senior Contract Specialist                      |
| III. DBE Goal and Requirements  | Race Neutral  |
| IV. Project Overview            | Ed McMahon, Project Manager/Peter Gentile, Project Manager - HNTB |
| V. Questions and Answer Session |   |

**I. Introduction**

**Attendance Sheet**

<b>Project Dates:</b>	Solicit Bids:	April 23, 2015
	Pre-Bid Conference	May 7, 2015
	Questions Due:	May 14, 2015
	Bid Opening:	May 21, 2015 at 2:00 pm

**II. Proposal Requirements and Process**

**Inquiries and  
Requests for  
Clarification:**

All inquiries and requests for clarifications regarding the Contract Documents shall be submitted by e-mail to the Contract Specialist. Such requests shall state the Bid number and name of Project. Any response that NJ TRANSIT may choose to make will be by a written addendum to the Bid. NJ TRANSIT will not be bound by any informal explanation, clarification, or interpretation, oral or written, by whomsoever made, that is not incorporated into an addendum to the Bid. All such Addenda will be emailed to all Bidders prior to Bid Opening.

The Bidder shall ensure that the Schedule of Bid Items to be bid contains all applicable Amendments. NJ TRANSIT has the right to reject bids that do not contain all applicable Amendments to the Schedule of Bids Items to be bid.

Requests for clarification can be e-mailed to [msotolongo@njtransit.com](mailto:msotolongo@njtransit.com) or faxed to (973) 232-1892.

**Receipt of Bids:** Bids must be received by NJ TRANSIT no later than 2:00 pm, Thursday, May 21, 2015. NJ TRANSIT will not accept any bids received after that time and such bids will be returned unopened.

Bids will be publicly opened at the NJ TRANSIT Procurement office at the time and date below. The bids shall be sealed with the following identification on the outside of the envelope:

Bidder's name and address:

**NJ TRANSIT  
Office of Procurement - Bid Desk  
One Penn Plaza East  
Newark, NJ 07105-2246  
Re: Sealed Bid IFB #15-021  
Fuel Trucks for Emergencies  
Superstorm Sandy Recovery and Resilience  
Program**

Bids shall be accompanied by Bid Security in the form of a Bid Bond, Cashier's Check, Certified Check or irrevocable Letter of Credit. Cash is not considered an acceptable form of security.

The amount of the Bid Security shall equal to ten percent (10%) of the total bid amount. A Bid shall be rejected as non-responsive if it is not accompanied by satisfactory Bid Security.

**Award:** Award of Contract, if any, will be to that bidder who is deemed to be the lowest responsive and responsible bidder.

**Bid Validity:** One hundred twenty (120) days following the date of the bid opening.

**Liquidated Damages:** \$150.00 each calendar day of delay in completing the work.

**Insurance Requirements:** The successful bidder is required to submit evidence of insurance coverage of the types in the amounts specified in the General and Special Provisions.

### **III. DBE Goal and Requirements**

**DBE Goal:** A race neutral disadvantaged business enterprise goal has been established for this contract.

**DBE Requirements:** The Contractor shall refer to the DBE Requirements for Race Neutral Goal Program in Exhibit 14 included with the IFB documents for requirements concerning the DBE obligations for this contract.

The DBE Forms A, A1 and A2 forms are required of the two lowest bidders and are required to be submitted within seven (7) days of the bid opening.

NJ TRANSIT encourages all bidders to submit required Forms/Affidavits/ Certificates at the time of bid to expedite the proposal review and contract award process.

Questions regarding DBE certification shall be submitted directly to NJ TRANSIT's Office of Business Development to the attention of:

**Melisa Campusano**  
Senior Business Development Specialist  
[mcampusano@njtransit.com](mailto:mcampusano@njtransit.com)

**IV. Project Overview**

**V. Question and Answer Session**

## **Attachment B**

### **Invitation for Bid No. 15-021 Fuel Trucks for Emergencies Superstorm Sandy Recovery and Resilience Program**

NJ TRANST IFB NO. 15-021  
FUEL TRUCKS FOR EMERGENCIES  
SUPERSTORM SANDY RECOVERY AND RESILIENCE PROGRAM  
PRE-BID CONFERENCE ATTENDANCE SHEET

THURSDAY, MAY 7, 2015

Printed Name of Attendee	Company Name	Email	SBE/DBE
CHRIS Metzger	Curry Supply		
Melisa Compusano.	WJT OBD.		
Tim Hankrich	NTB SOLUTIONS		
Lisamarie Codrington	NJT		
GREG KOLLI	HTBS		
Steve Murphy	Hunter Jersey Peterbilt		
Tony MUSCIOTTO	GABRIELLI TRUCK SALES OF NJ		
Brendana Tobin	Gabrielli Truck Sales NJ		
JOSEPH KELLY	Hunter Jersey Peterbilt		

**NJ TRANST IFB NO. 15-021  
FUEL TRUCKS FOR EMERGENCIES  
SUPERSTORM SANDY RECOVERY AND RESILIENCE PROGRAM  
PRE-BID CONFERENCE ATTENDANCE SHEET**

**THURSDAY, MAY 7, 2015**

Printed Name of Attendee	Company Name	Email	SBE/DBE
Peter Gentle	HNTB		
ED mcmahon	HJT		
John Barricella	HNTB		
Kesh murthy	NJ Transit		
Maggie Sotolongo	NJT		
Joe Miale	NJ Transit		



**Chris Christie**, Governor  
**Kim Guadagno**, Lieutenant Governor  
**Jamie Fox**, Board Chairman  
**Veronique Hakim**, Executive Director

**NJ TRANSIT**  
One Penn Plaza East  
Newark, NJ 07105-2246  
973-491-7000

May 13, 2015

To Whom it May Concern:

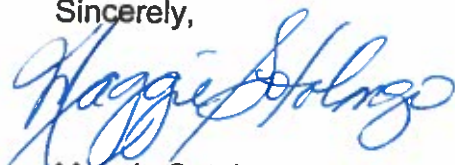
**Re: NJ TRANSIT Invitation for Bid No. 15-021  
Fuel Trucks for Emergencies  
Superstorm Sandy Recovery and Resilience Program  
Addendum No. 2**

The following constitutes Addendum No. 2 and must be acknowledged with each bid. Prospective bidders are advised of the following clarifications, additions and/or revisions to the above referenced Invitation for Bid:

1. The deadline for questions and clarifications has been extended to Thursday, May 21, 2015 by end of day.
2. The Invitation for Bid due date has been extended to Thursday, June 4, 2015 at 2:00 pm.

This concludes Addendum No. 2. An authorized representative of your organization shall acknowledge receipt of this Addendum in the Exhibit provided with its bid. Failure to acknowledge receipt of all Addenda may cause the rejection of the Bid as non-responsive.

Sincerely,



Maggie Sotolongo  
Senior Contract Specialist  
Procurement Department

Chris Christie, Governor  
Kim Guadagno, Lieutenant Governor  
Jamie Fox, Board Chairman  
Veronique Hakim, Executive Director

**NJ TRANSIT**  
One Penn Plaza East  
Newark, NJ 07105-2246  
973-491-7000

June 1, 2015

To Whom it May Concern:

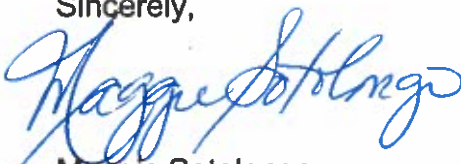
**Re: NJ TRANSIT Invitation for Bid No. 15-021  
Fuel Trucks for Emergencies  
Superstorm Sandy Recovery and Resilience Program  
Addendum No. 3**

The following constitutes Addendum No. 3 and must be acknowledged with each bid. Prospective bidders are advised of the following clarifications, additions and/or revisions to the above referenced Invitation for Bid:

1. The responses to all of the questions received have been included as Attachment A.
2. A revised set of technical specifications has been included as Attachment B. All revisions/changes are in bold.
3. The Invitation for Bid due date has been extended to Thursday, June 11, 2015 at 2:00 pm.

This concludes Addendum No. 3. An authorized representative of your organization shall acknowledge receipt of this Addendum in the Exhibit provided with its bid. Failure to acknowledge receipt of all Addenda may cause the rejection of the Bid as non-responsive.

Sincerely,



Maggie Sotolongo  
Senior Contract Specialist  
Procurement Department

**NJ TRANSIT Invitation for Bid No. 15-021**  
**Fuel Trucks for Emergencies**  
**Superstorm Sandy Recovery and Resilience Program**  
**Attachment A**

**Invitation for Bids No. IFB #15-021  
Superstorm Sandy Recovery and Resilience Program  
Fuel Trucks for Emergencies  
Questions & Answers**

**Question 1- Most engines have horse power ratings of 455hp or 485hp.... What is preferred?**

**Answer – The minimum horse power acceptable is 455hp with a minimum 13L engine size.**

**Question 2- The only engine in the truck market today that has a Dual turbo system is the International MaxxForce and I am not sure it is even EPA approved at this time?**

**Answer – Either a single turbo or dual turbo engine will be acceptable.**

**Question 3- On the lift axle you are doing steerable, one tire matching the steer axle should be listed and not a dual tire system?**

**Answer – The lift axle is a steerable axle and the tire is matching the front tire.**

**Question 4- Remote power module' are OEM only to International, we can supply switches?**

**Answer- Switches will be an acceptable alternate.**

**Question 5- We offer an Aluminum cab not steel that is 64" wide, is that acceptable?**

**Answer- An aluminum cab or steel cab are both acceptable with a minimum width of 80". The truck chassis must be steel, as well as, the frame and fuel tanks. All must be fully capable of being grounded with no dissimilar metals in the system.**

**Question 6- Mirrors do not offer LED marker lamp included, is this acceptable?**

**Answer- A marker light is required if available on the mirrors, the cab and body marker lights will still be required.**

**Question 7-Wiper motor functions are standard, International OEM with what listed on bid?**

**Answer – Wiper motor functions are required. Special features shall be provided if available from the chassis OEM .**

**Question 8- Grab handles are inside the cab to be out of the weather, not mounted outside? 2.11.21, 2.11.22, 2.11.23 are all OEM to International?**

**Answer- Exterior grab handles are required.**

**Question 9- Request for approved equal the following:**

<b>Item #</b>	<b>Request</b>
<b>2.0</b>	<b>Mack Trucks GU713</b>
<b>2.5.4</b>	<b>Hendrickson 20,000LB Pusher Axle</b>
<b>2.6.3</b>	<b>Mack 46,000 Air Suspension</b>

**Answer- The above items are acceptable per the specifications submitted for the or approved equal requirement.**

**Question 10- Sec #2.14 Document Holder (Can you mention Twist type, the part number is correct)**

**Answer- Twist off type will be added to the Specification.**

**Question 11- Sec#18.1 Deliver chassis to body co. is about 90 days after an order is placed. Body and installation??? I don't know if 210 is enough, please ask body builder?**

**Answer-** 210 days will be deleted from the Specification and 240 days will be added.

**Question 12- Sec #18.2 & 19.9 Does NJT want IRP or commercial plates?**

**Answer-** Commercial plates

**Question 13- In reference to question about 11.2.2. It calls for PPG coatings. Just checking to see if Axalta coatings are accepted. Axalta is formerly Dupont. It is the same coatings just a name change?**

**Answer-** Based on the documentation submitted in the form of product specifications for Dupont Imron Elite Productive Topcoat, the Dupont Imron paint as submitted is an acceptable substitute to the PPG paint specified.

**Question 14- Cab chassis and Front and rear axles; Spec asks for 2 years unlimited miles we can offer 2years or 100,000 miles or 150,000 miles ( unlimited miles not available)**

**Answer-** 2 years or 100,000 miles is acceptable

**Question 15- Item 3.1 Per DMF – Specific chassis line item specs are necessary in order to provide analysis. None available. Can we provide at bid?**

**Answer-** See Specification Section 1.7 and bid accordingly.

**Question 16- Item 3.3 Per DMF no pin off necessary for on rail travel due to RW1630 design. Acceptable?**

**Answer –** The DMF hi-rail gear is the basis of design rail gear and the Specifications will not be changed.

**Question 17 – Item 3.7 Is flat black paint acceptable?**

**Answer –** Paint shall be as specified with the exception that Dupont Imron Elite Productive Topcoat paint is an acceptable substitute.

**Question 18- Item 4.1 Spec requests “all steel” construction. I again request that an aluminum tank be acceptable. We can meet all grounding requirements using the aluminum tank. We are struggling to find a DT certified steel tank.**

**Answer-** The specifications will not be changed, the truck chassis, fuel tank and support frame shall be steel construction.

**Question 19 – Item 6.4 Requests double sided galvalume steel. Is regular body sheet metal with undercoating acceptable?**

**Answer –** No the specifications will remain as originally specified

**Question 20 – Item 9.3 Spec requests 2” pump that will only supply 83GPM not 100GPM. Will a Blackmer 2.5” pump be acceptable?**

**Answer –** No pump sizes will remain as specified.

The primary Contractor shall provide warranty service to the trucks with-in 100-mile radius from Newark Non-Revenue Shop. If the Contractor's facility is beyond the stipulated distance, then the Contractor shall make alternate arrangement to provide service such as an authorized dealer of the chassis or the equipment mounted on the truck or a mobile service workshop authorized by the Contractor. Warranty service shall be available on a priority basis within 24 hours of reporting a problem or failure. Warranty facility or an alternate arrangement shall be in place and documents shall be sent to NJ TRANSIT before the contract is awarded to the responsive bidder.

**NJ TRANSIT SPECIFICATIONS**  
**FUEL TRUCKS FOR EMERGENCIES**  
**SUPERSTORM SANDY RECOVERY AND RESILIENCE PROGRAM**  
**IFB No. 15-021**

**1.0 SCOPE**

This specification sets forth NJ TRANSIT's requirements for two (2) new, ready for service, fuel truck consisting of a cab/chassis with a fuel body with hydraulic product delivery systems meeting the following minimum criteria. The fuel truck shall be designed for the severe, off-road travel environment typical of the locomotive servicing industry. NJ TRANSIT may order one (1) additional truck on this contract within 180 days of initial Purchase order date.

The chassis, pumping equipment, fuel tank, and other standard accessories offered under this contract shall be in regular production for a minimum of two (2) years with parts available through normal sources. Prototype and one off type of equipment shall not be accepted.

- 1.1 The salient characteristics of the truck engine horse power, torque, transmission features and the wheel base cab to axle etc. are specified and detailed elsewhere in other sections of the this specification.

- 1.2 Abbreviations: The abbreviations used in the specifications are as follows:

AF:	Rear Axle to End of Frame, Inches
ASTM:	The American society of Testing and Materials
ANSI:	The American National Standards Institute
ASME:	American Society of Mechanical Engineers
AWS:	American Welding Society
CA:	Cab to Rear Axle, Inches
CT:	Cab to Tandem Axle Distance, Inches
DOT:	Department of Transportation
EPA:	Environment Protection Agency
FMVSS:	Federal Motor Vehicles Safety Standards
FRP:	Fiber Reinforced Plastic
GPM:	Gallons per Minute
IFB:	Invitation for Bid
LED:	Light Emitting Diode
MPH:	Miles per Hour

NFPA:	The National Fluid Power Association
NHTSA:	National Highway Transportation Administration
NJMVC	New Jersey Motor Vehicle Commission
OEM:	Original Equipment Manufacturer
OAL:	Overall Length of the Vehicle, Inches
OSHA:	Occupational Safety and Health Administration
PSI:	Pounds per Square Inch
RBM:	Resisting Bending Moment of the Chassis Cross section, LB-IN.
RPM:	Revolutions per Minute
PTO:	Power Take Off
SAE:	The Society of Automotive Engineers
UL:	Underwriters Laboratory
WB:	Wheelbase of the Vehicle, Inches

1.3 Definitions: Following are the definitions of special terms used in these specifications.

- 1.3.1 dBA. Decibels with reference to 0.0002 microbar as measured on the "A" scale.
- 1.3.2 Curb Weight. Weight of vehicle including maximum fuel, oil, and coolant, and all equipment required for operation and required by these specifications, but without passengers and the operator.
- 1.3.3 GVWR (Gross Vehicle Weight Rating). Curb weight plus gross load.

1.4 Requirements:

- 1.4.1 The delivered vehicle(s) shall be new and ready for service.
- 1.4.2 Vehicle shall meet all applicable FMVSS, State of New Jersey and EPA requirements.
- 1.4.3 The vehicle shall be capable of passing a NJ Motor Vehicles commission and/or NJDOT inspection.
- 1.4.4 All major components shall be of a style and type in production for at least one (1) year. The equipment/body being provided and installed shall be new. Prototype vehicle or components shall not be accepted.
- 1.4.5 All dimensions and capacities herein shall be considered nominal and deviations of +/- 2% acceptable.
- 1.4.6 All dimensions, measurements and other pertinent data used throughout this specification are U.S. standard units; inches, feet, pounds, etc.
- 1.4.7 The design and construction of the vehicle(s) shall be such that it/they shall function and maintain its/their component and structural integrity for the intended use in a railroad environment.



- 1.4.8 The completed vehicle(s) and all equipment shall be furnished and installed in accordance with standards set forth by ASTM, SAE, ANSI, NFPA, OSHA, UL, ASME, and AWS.
- 1.5 The Contractor shall present two (2) complete sets of detailed layout drawings to a scale of 1/2" = 1 foot of the proposed vehicle under this procurement, manufacturer's recommended body mounting procedure, detail design drawing of the body, fuel tank, fuel delivery system panel and electrical diagrams covering all contractor-installed electrical systems and their connections to OEM electrical systems, for NJ TRANSIT's approval within thirty (30) days of "Notice to Proceed" and prior to purchasing any equipment and commencing building of the vehicle and/or utility body. The layout drawing(s) shall show top, left and right sides, front, and rear of the vehicle. The drawing(s) shall show to scale the dimensions of the vehicle to the vehicle manufacturer's standard (i.e., BBC, CA, CF, WB, etc.) and shall include total height, total length, width and the locations and dimensions of all major components to be installed on the vehicle. The drawing shall include, in the top right-hand corner (optional separate paper) a table listing all the major components of the vehicle and their respective unit weights to support the weight distribution analysis performed on the vehicle by the successful bidder. A calculation shall be shown providing the GVWR of the vehicle less the actual weight of the chassis, body and all equipment and accessories, fuel (@8 lbs. per gal.), driver and one (1) passengers (@ 250 pounds each), to indicate what the estimated payload capacity of the vehicle shall be. Approval of the drawings shall be obtained from NJ TRANSIT prior to construction. The drawings, and any modifications to them, in order to receive approval to begin construction, shall be at the Contractor's expense. Any unnecessary items purchased or work performed before the drawings receive final approval from NJ TRANSIT shall be non-reimbursable and at the Contractor's expense. A complete set of "as-built" drawings, including all changes made to the original drawings, if any shall be submitted with each manual as detailed in sections entitled "Acceptance" and "Manuals".
- 1.6 Prior to award, the apparent low bidder and NJ TRANSIT shall meet and discuss the equipment that will be supplied. The Contractor shall submit to the Project Manager for approval a data sheet listing the chassis and cab, the major components of the chassis and cab, as well as all optional equipment to be installed on the vehicle. Wherever possible, all optional equipment shall be factory installed. If certain items must be installed by the dealer, the dealer shall submit to NJ TRANSIT for approval a list in writing of all equipment that cannot be installed at the factory, and the reason for the same, prior to placing the order.
- 1.7 Prior to the ordering of the chassis/cab, the dealer shall submit to the Project Manager for approval a successful analysis of the following items:
- 1.7.1 Truck performance and economy (related to road speeds in all gears and gradability) which shall be a nominal 65 miles per hour cruising road speed and gradability of 30% transmission stall at 0 MPH.

1.7.2 Weight distribution based on the major components listed on the engineering drawing.

Note: All analysis shall be done at maximum full load capacity.

- 1.8 The Contractor shall submit a copy of the sales order and a complete set of sales data, features and specifications for a proposed chassis/cab under this procurement to NJ TRANSIT within thirty (30) calendar days of the issuance "Notice to Proceed".
- 1.9 The line set ticket from the original manufacturer of the chassis/ and cab shall be submitted to NJ TRANSIT as part of the acceptance criteria.
- 1.10 The Contractor shall present a detailed production schedule and timeline for the vehicle(s) to be built under this procurement to NJ TRANSIT within thirty (30) calendar days of the issuance of the purchase order and prior to commencing building of the vehicle(s). The schedule shall at a minimum include the following:
- 1.10.1 Chassis factory on-line-date
  - 1.10.2 Expected delivery date of chassis,
  - 1.10.3 Expected build date of the body, anticipated completion dates of major milestones in production and installation of the body and major components on the chassis,
  - 1.10.4 Anticipated date for milestone and pre-paint inspections
  - 1.10.5 Final inspection date at Contractor's facility, delivery of vehicle to NJ TRANSIT
  - 1.10.6 Anticipated training dates.
  - 1.10.7 The production schedule shall indicate clearly the extent of the work to be completed by the Contractor and any Subcontractors respectively. The schedule shall include the names, addresses and telephone numbers of those responsible at the Contractor's and any subcontractor's locations for completing the various phases of the project as described in the production schedule. The production schedule shall be coordinated with the progressive payment schedule.
- 1.11 Liquidated Damages:
- 1.11.1 The damage and loss to NJ TRANSIT resulting from delay of the Contractor by not completing this project within the times stipulated shall be liquidated in the sum of one hundred and fifty dollars (\$150.00) for each day including Saturdays, Sundays and Holidays that the Contractor fails to meet delivery date as specified in this contract.

- 1.12 NJ TRANSIT Approved Equal: The Contractor shall provide and furnish only the equipment, components or parts that have been identified in this specification. Any equipment or component proposed as equal shall be identical in form, fit and function. All approved equals shall be submitted to NJ TRANSIT during request for change process for evaluation and written approval prior to manufacturing of the equipment. The submittal of approved equal shall include such information as make, model number, specification data sheet, drawings, appropriate laboratory and field test results, current users of such equipment or component, length of service, and contact information of users to verify such references. Any component used as approved equal without prior written approval from NJ TRANSIT shall be rejected. Requests for approved equals shall be submitted at the time of the request for changes before the bid date.
- 1.13 As part of the bid, installation locations for many items such as safety equipment, work lights, document holder, etc. have been indicated in the specification to be determined by NJ TRANSIT. The location of such items shall be determined during a milestone or a pre-paint inspection. If the location of an item is not clear, the Contractor shall seek clarification from the project manager. If the Contractor has already installed such components without the prior approval of NJ TRANSIT, and if relocation of any items deemed necessary, such relocations shall be done at no extra cost to NJ TRANSIT.
- 1.14 Attachment "A": It is a list of proposed components to be submitted by any potential Contractor as part of any request for changes before the bid. If no changes were requested, the list shall be submitted along with the bid package.
- 1.15 Attachment "B": It is a summary of deliverables stated in this section. The table provides a quick reference to the items to be submitted, time of submission, and any reference section in the specification, and whether it is tied into any progress payments.

## 2.0 CAB/CHASSIS

Chassis/cab shall be Navistar International, 7600 Series SFA 6X4, (SF567), or approved equal. **The specification is changed as follows: The Mack Truck Model GU713 is acceptable.**

- 2.1 Diesel engine shall be a wet sleeve type and fully electronic with 475 peak HP (minimum). **The specification is changed as follows: The minimum horse power acceptable is 455hp with a minimum engine size of 13L.**

- 2.1.1 Engine shall have the following features:

- 2.1.1.1 Governed speed - On-highway type, electronic controlled at 2,100 RPM, maximum. The electronics shall provide for electronic high idle, PTO control.
- 2.1.1.2 Torque – 1,700 ft/lbs. @ 1000 RPM. (Minimum)
- 2.1.1.3 Configuration - 6-cylinder, in-line
- 2.1.1.4 Aspiration – Dual turbocharged with intercooler and after-cooler. **The Specification is changed as follows: Either a single turbo or dual turbo engine will be acceptable.**
- 2.1.1.5 Cooling fan – Air operated and include manual override with a dash mounted switch
- 2.1.1.6 Oil pan drain plug - magnetic.
- 2.1.1.7 Oil filter - primary.
- 2.1.1.8 Cold starting equipment - engine block heater, 115/120 volts, 1000 watts. (Minimum) -plug shall be male type mounted on left side of cab below the driver's door with weather resistant cover. Include Y cord for 120V to fuel heater.
- 2.1.1.9 Cooling System
  - Radiator hoses - silicone or ethylene diene monomer or Gates Blue Stripe hose with constant torque clamps or heat shrink clamps
  - Heater/vent/coolant filter hoses - silicone or ethylene diene monomer or Gates Blue Stripe hose with constant torque clamps. System shall be protected with long life type antifreeze to minus 40 degrees F.
- 2.1.1.10 Dry air filter (single stage) Gauge-type air cleaner restriction indicator (measuring inches of water), dash mounted or warning light w/visible gauge located under hood.
- 2.1.1.11 Fuel/water separator and filter shall be a Racor, Davco Fuel Pro 382, or an approved equal. The unit shall heat the fuel by means of 120V electric heater & engine fuel heated. A drain valve shall be installed at the bottom of the unit. A water in fuel sensor signal shall be a signed colored light mounted on the dash, if available. A switch shall be provided so the fuel heater can be turned-off in warm weather or shall be thermostatically controlled.
- 2.1.1.12 Exhaust System - shall incorporate horizontal or vertical muffler with vertical chrome tailpipe with curved top stack (facing outward) cab mounted. The routing of the exhaust

may go over or under the frame depending on the body mounting requirements. Stack shall be protected by stainless steel or chrome heat shield, with grab handle mounted on it. System shall meet OSHA on-highway vehicle noise standards. Flexible pipe shall not be acceptable, unless required to meet Federal noise requirements. A 2-position, lighted & Latching, ON/OFF Type, toggle switch shall be wired and mounted on the dash that Inhibits diesel particulate filter (DPF) regeneration as long as the switch is in ON Position. A placard with instruction shall be affixed near the switch. Additional chrome heat shield shall be provided to protect the personnel entering the cab. The After-treatment regeneration sensor pack shall be remote mounted and insulated due to stationary vehicle operation.

2.1.1.13 Engine manufacturers or an approved equal, pre-wired engine alarm and shutdown system with automatic override shall be provided and installed. The system shall provide audible and visual alarms when low oil pressure, high coolant temperature or low coolant level conditions become dangerous, and shall provide engine shutdown in the event that these conditions reach a critical stage. An automatic or manual override feature shall be included to allow the engine to be restarted and run for 30 seconds to move the vehicle off the road after shutdown has occurred.

2.1.1.14 Engine compression brake shall be included

2.2 Transmission shall be an automatic, five (5)-speed, Allison model HD-4500-RDS-P with PTO gear with an oil level sensor, or approved equal. The transmission shall be OEM factory filled with Castrol-TransSynd OEM synthetic oil, or approved equal.

2.2.1 Vehicle shall be equipped with a transmission temperature indicator mounted in the cab on the dashboard with appropriate instructions and in view of the driver.

2.2.2 Transmission oil filter.

2.2.3 Magnetic disc in oil pan.

2.2.4 Oil cooler shall be as recommended by the OEM.

2.2.5 Two PTO openings, 10 bolt

2.2.6 Shift selector shall be T-handle or Push Button type mounted at dashboard.

- 2.2.7 Water to oil transmission oil cooler Modine or approved equal
- 2.2.8 Transmission module, TCM shall be mounted inside cab
- 2.3 Rear axle ratio shall be determined by the Contractor and approved by NJ TRANSIT at the time of the order based on the manufacturer's recommendation for the approved engine and transmission combination. Rear shall be as specified in this specification with magnetic drain plug. Rear axle shall be geared for 65 MPH (minimum) at the truck's GVWR of 80,000 pounds.
- 2.4 Chassis shall be:
  - 2.4.1 GVWR- 80,000 lbs.
    - WB - 228 inches (approximate)
    - CT - 144 inches (approximate)
    - AF - Per Body Builder requirements
  - 2.4.2 The frame shall have a section modulus of 31.72 in<sup>3</sup> (minimum), made of 120,000 PSI yield strength steel. Chassis RBM shall be 3,806,400 in-lb (minimum). The frame rail shall consist of the main with full outer "C" channel reinforcement.

The frame shall have a 20" integral front frame extension and also be "C" channel reinforced. Bolt-on or welded extensions shall not be accepted.
  - 2.4.3 Frame Rail – The top and sides of the frame rail from the cab back shall be clear.
    - 2.4.3.1 Fuel Tank
      - 2.4.3.1.1 One (1) 70-gallon (minimum) steel or aluminum tank, with drain plugs, mounted on the either right side or left side under the cab.

Also a 36 .OL DEF tank shall be mounted under the cab.
      - 2.4.3.1.2 Height of fuel tank steps shall not exceed 18", if so, an auxiliary flexible step with multiple strands of steel chain or heavy-duty rubber and grip strut steel material shall be provided below the fuel tank to assist vehicle entry.
    - 2.4.3.2 A battery box with secured cover shall be mounted on the street side or road side frame rail. The battery box shall be an OEM item from the chassis dealer.
    - 2.4.3.3 The fuel filter shall be mounted for easy service access, in a location to be approved by NJ TRANSIT

## 2.5 Axles

- 2.5.1 Front axle - 20,000 lbs. (minimum) capacity, Meritor or approved equal with oil seals
- 2.5.2 Rear axle - 46,000 lb. (minimum) capacity, single reduction, lube pump, Geared for 65 mph, tandem axle, manufactured by Meritor RT-46-160P or approved equal. Included shall be a power divider and posi on demand on the rear/rear axle controlled by dash mounted switches.
- 2.5.3 Axle traps-magnetic particles
- 2.5.4 Lift axle – 20,000 lb. (minimum) Watson-Chalin SL2089 Tru Track or approved equal, pusher type, steerable, inside box mounted controls. The controls for the lift axle shall be mounted inside the cab placed in a box with a door and latch so access to the controls shall be deliberate so as to make a conscience effort to utilize the lift axle in order to prevent accidental deployment of the axle. **The Specification is changed as follows: A Hendrickson 20,000LB Pusher Axles is acceptable.**

## 2.6 Suspension

- 2.6.1 Front springs - 20,000 lbs. capacity plus aux rubber helpers
- 2.6.2 Front heavy duty shock absorbers.
- 2.6.3 Rear suspension – 46,000 lbs. Capacity (minimum), Hendrickson Primax EX or approved equal. Air ride with shocks. The walking beam type is too stiff for the fuel truck application and shall not be acceptable. **The specification is changed as follows: The Mack Truck 46,000Lb air suspension system is acceptable.**

## 2.7 Single or dual hydraulic power assisted steering box.

## 2.8 Brake system shall be air type cam with automatic slack adjusters and four (4) channel Anti-Lock Brake System (ABS).

- 2.8.1 Parking brake - spring actuated, air unloaded.
- 2.8.2 The maximum swept area per wheel available from the manufacturer of the chassis shall be provided. Minimum brake sizes:
  - 2.8.2.1 Front- 16.5 x 6
  - 2.8.2.2 Rear- 16.5 x 7
  - 2.8.2.3 Lift Axle – 16.5 x 6

- 2.8.3 Air compressor shall be 15.9 CFM. (minimum) Bendix, Knorr Bremese LP360 DLU or Cummins or approved equal
- 2.8.4 Air dryer shall be Bendix, Model No. AD-IP or an approved equal, spin-on type, mounted in a location that shall be easy to service
- 2.9 Wheels and Tires shall be equal to or greater than axle capacities
  - 2.9.1 Wheels- front - Two (2) 22.5 x 9.00 - .500 thick steel disc, stud or hub piloted. Wheels shall be painted manufacturer's powder coat white  
Wheels – rear – Eight (8) 22.5 x 8.25 - .472 thick steel disc, stud or hub piloted. Wheels shall be painted manufacturer's powder coat white.  
Lift Axle – Two (2) 22.5 x 9.00 - .500 thick steel disc, stud or hub piloted. Wheels shall be painted manufacturer's powder coat white.
  - 2.9.2 Tires – Tires on all axles shall be of same manufacturer.
    - 2.9.2.1 Front – Two (2) 315/80R22.5 Goodyear G-289 WHA, 20 ply or NJ transit approved equal.
    - 2.9.2.2 Rear – Eight (8) 11R22.5-16 ply, all weather traction design (Goodyear G-287) or equivalent or NJ TRANSIT approved equal.
    - 2.9.2.3 Lift Axle – Two (2) 315/80R22.5 Goodyear G-289 WHA, 20 ply or NJ transit approved equal.
- 2.10 Electrical
  - 2.10.1 System - 12 volt
  - 2.10.2 Batteries - minimum of three (3) 12-volt, 2775 CCA total, deep cycling, increased capacity, maintenance free. Batteries shall be located inside a secured battery box that shall seal the battery against damage and corrosion. The batteries shall be easily accessible for servicing. Sealed battery cables shall be provided and lug for jumpstarting without cover removal. Battery box mounting shall allow easy body installation. Cab floor mounted battery disconnect switch, with decal.
  - 2.10.3 Alternator - 12V, 160 Amps output (minimum) at rated RPM Delco Remy model or Bosch LH160 brush type or approved equal, pad mounted
  - 2.10.4 Electrical Protection - circuit breakers, manual reset in lieu of fuses main panel.
  - 2.10.5 Gauges - speedometer/odometer, oil pressure, water temperature, voltmeter, engine hour meter (electronic, mounted in tachometer head



or oil sending unit activated--no electric activation will be accepted), PTO hour meter, fuel, transmission oil temperature, air pressure gauge with low pressure warning buzzer and tachometer. All gauges shall be dash mounted.

(Note: acceptable electronic hour meter sensing engine RPMs over 300 RPMs.)

- 2.10.6 Horns - dual electric and single air mounted under the hood or on the frame rail.
- 2.10.7 Heavy-duty electronic audible reverse alarm, Ecco "Smart Alarm" Model SA917 or approved equal. 87 dB (minimum) to 112 dB. , Automatic sound adjustment shall raise or lower the volume level maintaining a minimum of 5 dB above the surrounding noise level, indoors or outdoors.
- 2.10.8 Remote power module mounted inside Cab behind driver's seat; Up to 6 Outputs & 6 Inputs, Max. 20 amp. per Channel, Max. 80 amp. Total (Includes 1 Switch Pack With six (6) back lighted latched switches mounted on dash board) include switch label pack and with plugs for body builder). The number of switches to be obtained from OEM factory chassis builder shall be decided between the body company and the chassis dealer at the time of pre-production meeting. **The Specification will be changed as follows: The manufacturer may substitute switches for the Remote Power Module specified above.**
- 2.10.9 All wiring shall be routed along chassis frame, protected in plastic looms and secured by means of tie downs. Rubber grommets shall be used wherever wiring must pass through a hole in the body of chassis. Every precaution shall be taken to prevent pinching of wires by doors or other body or chassis components.
- 2.11 Cab with deluxe interior shall include the following features:
  - 2.11.1 Construction - cab shall be galvanized steel or aluminum with air suspension cab with a minimum width of 80 inches and shall be insulated. The hood shall be tilting fiberglass type with splash shields and rubber hold down straps.
  - 2.11.2 West Coast mirrors – Powered dual 16" X 7" or 14.84"X 7.44". The mirrors shall be OEM supplied, shall be retractable, have vibration-dampening features, and have adjustable legs and braces with stainless steel or black powder coat painted door-mounting brackets. Mirrors shall be heated, controlled by a labeled, lighted dash mounted rocker switch. Both mirrors shall be powered and include an LED clearance light. An approximately eight (8) inch wide-angle heated

mirror with brackets shall be mounted on each side, on lower mirror brackets. A convex panoramic "look down" mirror shall be mounted over the passenger door. **The Specification is changed as follows: The requirement for an LED marker light on the mirrors will be waived if not offered by the manufacturer, all other LED marker lights on the cab and chassis are still required.**

- 2.11.3 Windshield wipers - electric intermittent – 2- speed with windshield washer. When wipers are turned on, all chassis/body safety lights shall turn on. Wipers, if left on when park brake is activated, shall automatically go to the slowest intermittent speed.
- 2.11.4 Seats - Seats shall be provided in the darkest standard color available from the manufacturer.
  - 2.11.4.1 Driver seat shall be a high back bucket, National or Bostrom or approved equal, air suspension, adjustable fore/aft and up/down. Include inboard arm rest.
  - 2.11.4.2 The passenger seat shall be a two-man bench mechanical seat with 2" minimum heavy-duty cushion and under seat storage box. The seat shall match the driver's seat in color.
  - 2.11.4.3 Three-point shoulder/lap seat belts for driver and the end passenger shall be provided. A lap belt shall be provided for the middle passenger. Color orange.
- 2.11.5 Air conditioner, heater and defroster - high output, fresh-air type with 3-speed fan, include fresh air filter.
- 2.11.6 Radio - AM/FM with two (2) speakers and antenna
- 2.11.7 Sun visors - left & right side
- 2.11.8 Grab handles for cab entry at all doors, exterior with rubber insert and interior painted safety yellow, shall be adequate for the truck on h-rail and for a gloved hand
- 2.11.9 3 Coat hooks
- 2.11.10 Combination armrest and grab handle for all doors. The driver's seat shall have arm rest both sides
- 2.11.11 Headliner, molded plastic with overhead console netted storage pockets and two way radio pocket.
- 2.11.12 Tinted glass, all glass.
- 2.11.13 Front bumper – manufacturer's standard with stainless steel swing type license plate holder and frame mounted tow hooks accessible thru holes in bumper.

- 2.11.14 Door operated dome lights and LED courtesy lights on both doors and includes door map pockets.
  - 2.11.15 Finished driver and passenger door
  - 2.11.16 Floor mat in manufacturer's standard color to cover the complete cab floor with insulation and sound deadener. Also supply OEM provided removable rubber floor mats one per side
  - 2.11.17 Provide 3 cup holders
  - 2.11.18 Tilt steering wheel
  - 2.11.19 Cab exterior marker LED lights and long life Halogen headlights.
  - 2.11.20 Two (2) Cigar lighter style power port
  - 2.11.21 Dash mounted "Test exterior" light switch
  - 2.11.22 Park brake alarm shall sound city horn in repetitive manner if brake is not activated and cab door is opened.
  - 2.11.23 Vent windows shall be operational and door windows shall be powered with driver side express feature. Power door locks included.
  - 2.11.24 The chassis shall not have daytime running light as it interferes with the Hi-Rail lighting. If it is a standard feature from the chassis OEM, the chassis dealer shall disable the daytime running light through a software modification.
- 2.12 Radio: The Contractor shall supply a KENWOOD TK-7180H, 45Watt, VHF (136-174MHZ) Mobile Radio and a 3db gain mobile antenna suitable for the application, or approved equal. The following options and accessories shall also be furnished:
- 2.12.1 KENWOOD KES-5 external speaker, or approved equal
  - 2.12.2 Horn alert public address unit KAP-2, or approved equal
  - 2.12.3 Exterior horn speaker, manufactured by Speco, part number SPC-10, 6" Aluminum, PA horn, 8 ohms, 15Watts, or approved equal
- Note: Radio Installation shall not be required
- 2.13 Safety equipment to be provided and installed:
- 2.13.1 An Amerex, or approved equal, 10-pound refillable fire extinguisher with a 1A10BC rating, with a visible gauge and mounting bracket shall be installed on the body in a location to be determined by NJ TRANSIT.
  - 2.13.2 An Amerex or approved equal 2.5-pound refillable fire extinguisher,

with 1A10BC rating with mounting bracket shall be installed inside the cab at a location to be determined by NJ TRANSIT.

- 2.13.3 ICC triangular flare kit with mounting bracket installed in a location to be determined by NJ TRANSIT. Triangle kit K-D Model 610-4645 or approved equal, with mounting bracket K-D Model 616-9000 or approved equal. Kit shall consist of three (3) triangles in a reusable plastic box.
- 2.14 Document holder, part number 97960 as manufactured by Truck-Lite Betts, or an approved equal to be mounted in the cab. Mounting location shall be determined by NJ TRANSIT during a pre-paint inspection. **The Specification is changed as follows: The document holder may be a twist type holder.**

### 3.0 HI-RAIL GEAR

Contractor shall provide rail gear that will operate as required by this specification on NJ TRANSIT right-of-way. Single wheel sets for the front and rear as manufactured by DMF, or approved equal suitable for a vehicle with a GVWR of 80,000 pounds. The brakes on the railgear shall conform to FRA 49CFR, part 214 latest regulations. See Attachment B for further reference for this Section.

- 3.1 Railgear shall be capable of traversing all switches; self-guarded track/ frog assemblies and pedestrian wood crossings. Rail gear shall be capable of traversing curves up to and including 14 degrees.
- 3.2 Both front and rear railgear shall be rated at appropriate GAWR capacity per axle and shall be fitted with rail sweeps and derail guards shall be incorporated near each wheel. Include yellow site rods for the front rail gear.
- 3.3 A positive mechanical locking system shall be provided for rail and highway position. The locking pins shall be manually operated for both front and rear railgears without any cables or air assist. The Hi-Rail pin-offs including the flat surface of the pin shall be primed and painted white.
- 3.4 The rail gear wheel shall be mounted on spindles with Timken tapered roller bearings or approved equal.
- 3.5 Rail gears with non-insulated wheels without signal shunts shall be provided.
- 3.6 Guide wheel shall be machined to the rail profile of NJ TRANSIT
- 3.7 Rail gear shall be painted or powder coated black color.

- 3.8 The vehicle shall be equipped with a complete railroad lighting package to include one (1) pair of rear headlights shall be mounted under the body at the rear with a protective shroud for travel in reverse at night. The complete railroad lighting package as per FRA regulations to include front stoplights and rear headlights shall be provided.
- 3.9 Light shall be a Truck Light LED, or Maxxima part number MWL-05SP or approved equal, approximate size 6" x 4" rubber housing, rectangular halogen sealed beam type.
- 3.10 Controls for rear headlight shall be in a switch plate mounted at dash, rocker switch, sign to show "on" or "off" with pilot light and back lit.
- 3.11 A sealed micro-switch shall be incorporated into the railgear system in order to prevent use of the rear headlights unless the railgear is down.
- 3.12 Rear headlights shall be positioned for proper visibility when traveling in reverse at night.
- 3.13 Two (2) LED lights shall be provided and installed for illuminating each rail gear for night operation one in the front and one in the rear. Maxxima part number MWL-05SP or approved equal, approximate size 6" x 4" rubber housing, rectangular halogen sealed beam type. Additional four (4) Maxxima or Bett's LED work lights part number 325503 with 20A toggle switch, or approved equal and two pigtails shall be provided and installed on the bulkhead. Location of the lights to be determined during pre-paint inspection.
- 3.14 Change in direction signal system shall be provided as per the FRA standards § 214.523. "In-Right" system or approved equal shall be used for control panel wiring. Excerpts of the FRA standard has been provided as attachment B for reference. The completed trucks shall meet all current and applicable FRA regulations.
- 3.15 The railgear shall be installed by the manufacturer or by an approved factory authorized dealer. The installer shall use a hi-rail installation rack. The installer shall also be an approved dealer to do warranty work, and annual hi-rail inspection.
- 3.16 All modifications to the chassis, body and tire spacing necessary for the proper mounting shall be the responsibility of the installer of the railgear.
- 3.17 The railgear shall be tested for 1.5 miles in each direction to adjust the gears for use on rail and road prior to acceptance of the vehicle at the Contractor's facility during NJ TRANSIT pre-paint inspection. The installer shall place a test and

inspection certification sticker on the front and rear railgear prior to delivery of the vehicle to NJ TRANSIT.

- 3.18 Any modifications of the standard railgear equipment or the vehicle that is beyond the scope of this specification shall require notification to NJ TRANSIT.
- 3.19 Front rail gear shall be equipped with air activated external clasp type brakes.
- 3.20 Gear shall mount under the front bumper forward of steering axle, with no relocation of fuel tank, air tanks, air dryer or other major components.
- 3.21 Controls, remote hydraulic, shall be mounted on street side, at front of cab. The location of controls shall be approved by NJ TRANSIT.
- 3.22 Furnish and install yellow sight rods on the front bumper.
- 3.23 Rear rail gear shall be equipped with air activated external clasp type brakes.
- 3.24 Controls shall be remote mounted with hydraulic levers to direct the up and down movement of the gear and shall be mounted at the rear of truck. Location shall be approved by NJ TRANSIT.
- 3.25 The gear shall be attached to frame behind the chassis rear wheels.
- 3.26 Rear rail gear shall compensate for rear tire wear.
- 3.27 Braking shall be regulated through air system foot brake to the external brake shoes.
- 3.28 Design shall allow for easy availability of parts with a minimum of special one of a kind manufactured item
- 3.29 A diverter valve shall be installed off the main hydraulic system supply tank to the railgear circuit.

#### **4.0 DIESEL FUEL TANK**

- 4.1 Type: "Diesel Fuel", single-compartment, all-steel, all-welded construction, 'DOT-406' (CFR49 178.345) certified.
- 4.2 Volume: (4,200) U.S. gallons, plus (3%) expansion volume.

- 4.2.1 Tank heads: Flanged and dished, (0.1644") high-strength, low alloy steel, ASTM A607-50. Welded (100%) full-perimeter inside and outside. Full-perimeter knuckle radius per 'DOT-406.'
- 4.2.2 Tank baffle: (3) each, flanged and dished, (0.1644") high-strength, low-alloy steel, ASTM A607-50. Welded (100%) full perimeter; Full perimeter knuckle radius per 'DOT-406'.  
Baffle man ways are "staggered" to control "shot gun" fluid surging.
- 4.2.3 Tank shell: Upper: (0.1644) high-strength, low-alloy steel, ASTM A607-50. Lower: (0.1793") high-strength, low-alloy steel, ASTM A607-50.
- 4.2.4 Long sills: Full-length, formed steel box-type; (0.1793") HRS AISI 1020.
- 4.2.5 Bolsters: Front and rear, cover tank long sills. Mid ship, reinforces long sills to tank shell at cross-baffle location.
- 4.3 ROPS: Rollover protection system, top-mounted, full-length with catwalk between rails. Curb side (RH) rollover rail is air-tight and serves as vapor-recovery conduit. ROPS ends are "open" (un-capped).
- 4.4 Top of "Diesel Fuel Tank" is coated with non-skid "ship's grip".
- 4.5 Separators: Full-length steel-backed rubber isolator pads separate "Diesel Fuel Tank" long sills from truck chassis frame rails.
- 4.6 Ladder: Tubular steel w/ steel grip strut steps and top service platform; Ladder is located at street side front of "Diesel Fuel Tank".
- 4.7 Manhole(s):
  - 4.7.1 Top-mounted front, (20") diameter w/ (10") hinged and self-latching 'DOT-406' vented fill cover. 'Betts' number PPVL720BXB, or approved equal; Equipped with permanent fluid level marker disk; Accessible from access ladder service platform.
  - 4.7.2 Top-mounted rear, (20") diameter w/ blind cover used as a confined space escape portal. 'Betts' number 8008BXB.
- 4.8 Outlet: Tank bottom, (3") TTMA sump assembly (Allegheny 40122A), or approved equal.
- 4.9 Brackets: Tank mounting, structural steel (ASTM A36).

- 4.10 Fenders: Smooth-steel (0.1046") integrated with "Diesel Fuel Tank"; Design allows easy removal of road debris from between tank shell and fender.
- 4.11 Testing: "Diesel Fuel Tank" is tested in accordance to 'CFR49 Section 178.345-13' "Pneumatic Test Method". Test records are kept on permanent file following unit completion.
- 4.12 Fueling tank grounding: The 4200 gallon fueling tank will need to be grounded while operating in electrified territory. This will require that the fuel tank or mounting brackets be positively grounded to the truck chassis, all connections must be welded. A minimum of 4/0 stranded welding cable with 100 volt insulation can be used as the grounding cable, the cable must be flexible and easily manipulated to make a secure connection at the grounding point. In addition to the tank to chassis ground, a cable reel will be attached to the fueling tank or tank frame by welded connection, the reel will be capable of holding a minimum of 30 feet of 4/0 stranded welding cable with 100 volt insulation with a welded connection to the reel. The free end of the cable will have a welded clamp capable of providing a positive connection to either a 2 inch steel flange (catenary structure pole) or to the head of 140#/yard rail. The reel will be placed in a position where it is easily accessible to the operator and will not obstruct any other function relating to the operation of the fuel tank. The contractor is to provide details of how the grounding functions will be accomplished including placement of the tank to chassis ground and the ground cable reel, including all welding details. The grounding system must be capable of providing protection from voltages as high as 230Kv. The contractor must submit the proposed grounding system complete, including but not limited to the cable type, reel type, configuration at the connection point to the tank frame, weld types and details, the type and size of the proposed ground clamp and method of connection to the grounding cable for review and comment prior to starting installation on the vehicle.
- 4.13 Personnel Grounding Mat: Contractor to also provide with each truck a personal protective grounding mat to protect the operator while dispensing fuel. The mat will be an Equi-Mat grounding mat as provided by Hubble Power Systems or approved equal. The contractor shall make provisions on the truck body or tank frame for a secure storage position for the mat to protect it from transient damage during storage conditions and a connection point for the grounding clamp connection to the truck frame adjacent to the operator fueling controls. The mat will be a size suitable for the fueling activity, minimum size will be approximately 5'-0" by 5'-0". Contractor shall submit his proposed mat supplier with complete specification of the mat if another supplier other than Hubble Power Systems is his choice.



## **5.0 BODY MOUNTING, SPRING-LOADED**

- 5.1 Isolators: Combination steel-backed rubber pad and composite rubber, full-length of tank. Separates body long sills from truck chassis frame.
- 5.2 Mounting:
  - 5.2.1 Front: Spring-loaded w/ "H" bracket alignment bracket(s). 'H' brackets control forward/ aft and lateral tank movement during off-road travel. Control springs are pre-tensioned during installation.
  - 5.2.2 Mid ship and rear: Fixed position twin-bolt assemblies. Lateral guide(s), (1) each side, structural steel, prevents side-to-side tank movement.

## **6.0 EQUIPMENT COMPARTMENT, REAR-MOUNT**

- 6.1 Function: Carries/ protects diesel fuel dispensing equipment.
- 6.2 Type: Rectangular cross-section w/ sloped floor to capture fluids.
- 6.3 Catch tank: Fluids drain into holding tank installed under "Equipment Compartment"; Holding tank equipped with fluid level indicator and manual drain valve (1/4 turn) w/ plugged outlet. Tank volume: (20) U.S. gallons.
- 6.4 Material: Double-sided galvanized steel w/ structural steel floor reinforcement.
  - 6.4.1 Door: Rear, aluminum roll-up w/ keyed lock; Reinforced end plates for top roller assembly.
  - 6.4.2 Lighting: Interior, (4) each 'Truck Lite' LED; Switched from the truck chassis cab.

## **7.0 ACCESSORIES**

- 7.1 Lighting: Per current Federal, State, and Local regulations, FMVSS-108; Sealed LED system.
- 7.2 Power cable: Main, routed from the truck chassis' OEM junction box (or dedicated ECM module), to water-proof junction box installed under the "Diesel Fuel Tank" body'. Deutz multi-pin connector is used at the truck chassis.
- 7.3 Junction box: Equipped with brass terminal posts, function labeled, SAE/ ATA color-coded, heavy wall thickness for bulkhead threads, and sealed cover (Truck Lite).

## 7.4 Lamps

7.4.1 Rear: (3) Each side, STOP-TAIL-TURN (Truck-Lite '44'); LED Lamps are grommet-mounted w/ thermal-sealed connectors in a common module. Lamps function as TAILLIGHT, BRAKE LIGHT, and TURN SIGNAL.

7.4.2 Two (2) each back-up lamps (clear lens) are installed (1) each side.

7.4.3 Marker lamps: 'Truck Lite' model "35" LED, per FMVSS-108.

7.4.4 License lamp: 'Truck Lite' model "15041" w/ "42722" bracket installed at rear per 'NJT' direction.

7.5 Wiring: (19) Strand brass with vinyl cover held in place by automotive-type harness fasteners and connectors. Installation includes cable entrance fittings, choke seals, wire guards, pipe-to-barb nylon fittings, polyurethane instrument grade tubing.

7.5.1 No splice contacts, etc., where applicable. All wiring is protected against abrasion, salt, capillary action, and physical damage. All wiring bundles are protected by loom.

7.6 Work lamps: (4) each, installed at top, rear of "Equipment Compartment"; (1) each corner; 'Betts' 325503 (12VDC), or approved equal. Work lamps include (20) ampere toggle switch.

7.7 Strobe lamps: (2) each, 'Truck Lite 60290Y' (AMBER) installed in upper rear corners of the "Equipment Compartment". (2) Each, 'Truck Lite 44203Y' (AMBER) installed in front of the truck chassis' front grille. Amber lamps function with a 'Truck Lite' LED flasher unit.

7.8 Light bar: 'Whelen' model L-31HAF (LED), or approved equal installed above truck chassis cab on a bracket attached to the front of the "Diesel Fuel Tank". Branch guard included.

7.9 ID tags: Switch/ control ID tags are engraved plastic. Diesel fuel tank is labeled each side: "DIESEL FUEL ONLY" IN (2") letters. Maximum height: Conspicuously located in the chassis cab stating the maximum height of the "Fuel Service Unit" plus (2"). Letters are (1") high laminated plastic.

7.10 Bumper: Rear, extruded/ formed aluminum, reinforced to truck chassis frame; Certified to 'DOT-406' regulations. Bumper includes fluid drain holes in lower rail.

- 7.11 Placards: 'Federal DOT' hazardous material identification number '1993'; 'Quickway MPA' model LBM-126CT (4) Each or approved equal; (1) installed to each side of vehicle.
- 7.12 Data plate: Permanently attached to the street side front of "Fuel Service Unit"; Includes manufacturer, date of manufacture, manufacturer telephone number, street address, unit serial number, NJT contract number, and NJT purchase order number.
- 7.13 Instructions: "DRAIN DAILY" installed (2) places on rear bumper for fluid catch tank: White background/ red letters.
- 7.14 Striping: Reflective safety "red/white" installed around perimeter of rear door frame, each side along length of tank.
- 7.15 Mud flaps: Rubber, heavy-duty w/ anti-sail brackets.
- 7.16 Manuals: (2) Set, operation/ parts, ENGLISH only. Parts manual for the body shall include body builder added parts/ components numbers to include OEM part numbers.
- 7.17 Strobe lamp: (2) Each, Installed at rear of service unit; Recessed "AMBER".
- 7.18 Reverse alarm: Electronic, 'ECCO' "Smart Alarm" Model SA917 or approved equal; Auto adjusts (87) dB to (112) dB.
- 7.19 Extinguishers: (1) Each, 'Amerex' or an approved equal (20) pound refillable w/ 1A10BC rating w/ visible gauge and mounting bracket. One (1) each, 'Amerex' or an approved equal (2.5) pound refillable w/ 1A10BC rating w/ mounting bracket or approved equals. "NJT" to advise placement of fire extinguishers.
- 7.20 Flare kit: 'ICC' triangular w/ mounting bracket installed per 'NJT' directive. 'K-D' model 610-4645 w/ 'K-D' model 616-9000 mounting bracket or approved equal.
- 7.21 Pouch: Documents (Truck Lite 97960) installed per 'NJT' directive (Or approved equal).
- 7.22 Ground reel: Retractable, with plastic-coated ground cable and ground clamp; Grounded to truck chassis frame.

## **8.0 HYDRAULIC SYSTEM - CENTRAL**

- 8.1 Type: Gear-type pump, direct-coupled to the transmission power take-off. Powers fuel dispensing system and rail gear.
- 8.2 PTO: 'Chelsea' heavy-duty w/ hot-shift; Equipped with hour meter. PTO is pressure-lubricated w/ dash-mounted control switch and pilot lamp. Neutral lock-up provides direct mechanical link between the engine and transmission to prevent over-speeding. Gear ratio provides maximum fuel delivery rate(s) with minimum engine speed (RPM).
- 8.3 The PTO system includes:
  - 8.3.1 Restriction to Neutral Operation Only using a normally open neutral safety switch.
  - 8.3.2 Restriction to PTO Engaged Condition using a normally open PTO limit switch (lever control) or an electrically activated switch.
  - 8.3.3 When switches are simultaneously closed, the circuit is completed and activates a normally closed solenoid valve.
- 8.4 Reservoir: (30) U.S. gallons, minimum, w/ return oil filtration (10 microns), pump isolator valve, visual fluid level indicator/ thermometer, pump suction strainer w/ flow by-pass.
- 8.5 Control: Fuel pump, manual hydraulic directional control valve provides infinitely variable fuel pump speed/ fuel delivery. Valve spool is bi-directional motor flow. One direction provides flow rate for high-volume fuel delivery. One direction provides flow rate for low-volume fuel delivery. Individual check valves prevent hydraulic back-flow through opposite section ports. Spool stops are pre-set to prevent exceeding fuel delivery for high and low volume systems. Control valve located in rear "Equipment Compartment".
- 8.6 Hose: Hydraulic, used permanently crimped fittings; Manufactured by 'Gates or approved equal. Routed under-body with protective nylon sleeve.

## **9.0 DIESEL FUEL DISPENSING SYSTEM**

- 9.1 Type: Hydraulic-powered fuel dispensing pump provides "high" and "low" flow rates.
- 9.2 Flow rates: High-flow: (100) GPM at fuel dispense valve outlet.

Low-flow: (0-30) GPM at fuel dispense valve outlet.

- 9.3 Fuel pump: 'Roper' model 3611-HBRV (2" x 2"), gear-type w/ integral pressure relief valve or approved equal. Direct-coupled hydraulic motor; Equipped with a manual pump chamber drain.
- 9.4 Manifold: Fuel delivery divider w/ three-port, two-way manual selector valve separating the high-flow hose reel from the low-flow hose reel.
- 9.5 Filter: Pump discharge, (8) microns w/ spin-on canister and mechanical dirt indicator.
- 9.6 Separator: Fuel/ water installed between fuel pump and hose reel inlet.
- 9.7 Flow meter: 'Liquid Controls' model M56 rotary motion w/ air eliminator, inlet strainer (80 mesh), totalizer (9 digit, non-resettable), register (5 digit resettable), back-flow check valve or approved equal, and self-draining air eliminator moisture catch tank. Ticket printer w/ manual crank handle for printing; Meter registers in (1/10) and in U.S. gallons.
- 9.8 Service hose: High-volume flow: (1-1/2" x 75'-0") long w/ 'OPW 1290' automatic shut-off delivery valve/ nozzle. Nozzle minimizes fuel foaming and false shut-off. Inlet hose swivel, 'OPW', two-plane included. 'Hannay' EPJ7528-19-21 electric rewind w/ hose stop or approved equal; Includes (3) way hose rollers, positive drum lock, auxiliary manual rewind, and explosion-proof switchgear and power relay.
- 9.9 Service hose: Low-volume flow: (1" x 50'-0") long w/ 'Emco-Wheaton 'Posi-Lock 105' w/ threaded adapter to (1" x 50'-0") service hose or approved equal. Hose reel, 'Hannay' N8182526B, or approved equal spring-return w/ hose stop.

## **10.0 WORKMANSHIP/INSTALLATION**

### **10.1 Electrical**

- 10.1.1 No external splices or plugs shall be accepted; all splices and connections shall be in lamp housings or junction boxes.
- 10.1.2 All primary wire shall be 14 gauge, BSXL cross-linked polyethylene insulation. All cable shall be jacketed A.T.A. or T.T. M.A. recommended practice quality. A plastic loom shall protect all other wire bundles.
- 10.1.3 All wiring and cable shall have sufficient slack to allow for expansion and contraction.

- 10.1.4 All wiring and cable shall be fastened in place every fifteen inches, with heat-resistant, rubber coated fasteners (stick "on" are not acceptable). All holes that the wires pass through shall be rubber grommets to prevent chaffing.
- 10.1.5 The entire installation shall be assembled with care to assure a sealed, dry system.
- 10.1.6 All lights shall be wired in parallel, not in series.
- 10.2 Welding
  - 10.2.1 All weldments shall be properly designed, utilizing correct specification and controls and shall perform satisfactorily in the service environment for which they were designed. They shall conform to the following American Welding Society (AWS) standards as applicable:
    - 10.2.1.1 Standard Qualification Procedure, AWS B3.0-41.
    - 10.2.1.2 Recommended Practice for Automotive Welding Design, AWS D8.4-61.
    - 10.2.1.3 Standard Qualification of Welding Procedures and Welders for piping and tubing, AWS D10.9-69. All critical welding performed during equipment installation shall be done by an AWS D.1 certified welder with current certification.
  - 10.2.2 All visible welds shall be finished by chipping, grinding, machining, rolling, hammering or any other acceptable means to provide a product with a reasonable appearance that meets the Automotive (Heavy Truck) Industry Standard. No sharp edges.
  - 10.2.3 In order to provide a sound paint job over welds, the contractor shall:
    - a. Minimize weld spatter.
    - b. Clean all welded and adjacent areas.
    - c. Prime all welded surfaces immediately upon cleaning.
- 10.3 Installation
  - 10.3.1 All installation points (bare metal) shall be primed and painted.

- 10.3.2 Contractor shall follow all recommended industry installation procedures and directives.
- 10.3.3 Contractor shall provide installation instructions for all equipment supplied by an equipment manufacturer to NJ TRANSIT at time of inspection for verification of proper installation.

## **11.0 COATINGS**

### **11.1 Rust Proofing and Undercoating**

Chassis and cab shall be warranted against rust and corrosion for a period of no less than five (5) years. Vendor shall present to NJ TRANSIT a written manufacturer's warranty.

### **11.2 PAINT**

- 11.2.1 The cab and body shall be furnished with a quality, commercial grade finish. All surfaces shall be free of dents, gouges, buckles, surface scale, rust, corrosion and any other surface irregularities and defects. All surfaces shall be cleaned and conditioned in accordance with the paint manufacturer's recommended procedures for base material and final coating application.
- 11.2.2 The finish color for the cab shall be the chassis manufacturer's OEM urethane pure white. The body, tanks, deck compartment and all accessories on the body shall be painted urethane PPG concept DCC 2785 safety yellow or approved equal. **The specification is changed as follows: Dupont Imron Elite Productive Topcoat paint will be acceptable based on the product data sheet submitted.**
- 11.2.3 Areas that have received welding shall be prepared with an anti-corrosion wash prior to paint to prevent rust bleed through.
- 11.2.4 All items mounted below the chassis frame shall be painted a minimum of two (2) heavy coats of gloss black matching the frame/fuel tank from the chassis OEM.
- 11.2.5 All walkways and any area likely to be stepped on shall be coated with non-slip coarse grain black or gray rhino or American Coating or approved equal lining material.
- 11.2.6 Hydraulic tank fill cap shall be painted blue with a decal "Hydraulic fluid only" in the vicinity.

## **12.0 SIGNS, PLACARDS AND DECALS**

- 12.1 All signs on the vehicle used to identify switches/levers shall be laminated engraved plastic or pre-printed black on metal tags.
- 12.2 All safety items shall be labeled appropriately according to its level of danger
- 12.3 Fuel tanks shall be labeled: "Diesel Fuel Only" in 2-inch letters.
- 12.4 A nameplate shall be provided in a location in the cab conspicuous to the driver stating maximum height of vehicle, plus 2". Letters shall be a minimum of one (1) inch high, laminated plastic, or pre-printed black on metal tag.
- 12.5 Four (4) Quickway model MPA, Flip Placard Model LBM-126CT or approved equal, hazardous placards shall be installed, one each side of vehicle.
- 12.6 Red and white, 2" wide reflective tape shall be affixed on the rear door frame - top, bottom and side and along the rub rail on both sides of the body
- 12.7 Listing of Major Components: Manufacturer model number, serial number, and component capacity of major components shall be a placard attached on the body and inside a compartment in an easily accessible place for reference. Also include NJ TRANSIT contract number and purchase order number. Also include the Contractors name and phone number.
- 12.8 Furnish and place GVWR decals, travel height decals, and payload decals both inside the cab as well as outside on the truck in an appropriate place to be decided during a pre-paint review of the truck progress.
- 12.9 "Drain and daily" sign shall be placed in two places on the rear bumper drain pan combination in red letter with white background.



### 13.0 WARRANTY

- 13.1 Manufacturer shall warrant the vehicle and components against defects in material and workmanship, from date of acceptance by New Jersey Transit, as follows:

Minimum warranties:

Cab/chassis - manufacturer's standard warranty--two (2) year, unlimited mileage, 100% parts & labor. **The specification is changed as follows: A warranty of two (2) years, 100,000 miles is acceptable.**

Front and rear axles and driveline--two (2) year, unlimited mileage, 100% parts & labor. **The specification is changed as follows: A warranty of two (2) years, 100,000 miles is acceptable.**

Transmission – five (5) years, unlimited mileage, 100% parts & labor.

Engine - Eighty four months (84 months), or 250,000 miles, 100% parts & labor for wet liner type engine. The warranty shall include engine electronics, turbo charger, water pump, and fuel injectors.

Engine components to be covered by the Contract:

Engine internally lubricated parts

Fuel transfer pump

*Turbocharger*

EGR components

*Water pump*

Engine Electronic parts (i.e. Control System Harnesses and Connectors, IDM, ECM, Power Relays)

Injectors and Connectors

The extended engine warranty shall be applicable to the intended vocational truck application. The warranty shall cover complete engine, all internal major and minor components including mounting hardware and gaskets, with full parts and labor. There shall be no deductibles and shall cover progressive damage and consumables. In addition to internal components of the engine and ECM, the warranty shall cover components such as fuel pump, variable geometry turbocharger, air compressor, vibration damper, water pump, fan hub, EGR cooler valve.

Cab (perforation due to corrosion) and frame rails—five (5) years, unlimited mileage, 100% parts and labor.

Body – Five years (5), 100% parts and labor – including the entire sub structural integrity and rust through.

If manufacturer's standard warranty does not meet the above minimum acceptable warranties, the contractor shall provide extended warranties for the additional coverage.

Additional manufacturer's standard warranties for special components (i.e., transmissions, axles, etc.) that go beyond the above minimum acceptable warranties shall also be provided.

Warranty cards for all major equipment/components shall be provided to the Project Manager no later than two (2) weeks prior to the delivery of the vehicle. All warranty cards shall be filled-out to the extent possible, except for the in-service date.

The warranty period for all components shall begin on the in-service date of the vehicle. At the time of delivery, all manufacturers' warranty cards shall be completely filled in and shall include dealer codes.

- 13.2 During this warranty period, the vehicle shall maintain its structural and functional integrity. The warranty shall be based on regular operation of the vehicle under the operating conditions prevailing at NJ TRANSIT.
- 13.3 If NJ TRANSIT detects a defect within the warranty period, it shall promptly notify the contractor's representative. The contractor shall correct the defect within five (5) working days.
- 13.4 Warranty Document Folder: The primary Contractor shall be responsible to collect all the relevant warranty document including the chassis, power train such as engine, transmission, emission components, air compressor, and all other major accessories on the truck including the fuel and lube tanks. The documents shall be submitted in a folder in a paper format as well as in an electronic format.

#### **14.0 IN-PLANT INSPECTIONS**

The contractor shall agree to make provision for in-plant inspections by representatives from NJ TRANSIT at the contractors and subcontractors manufacturing facilities, at any point during the production process, in order to verify timely completion of production milestones, as well as to verify contractor and sub-vendor compliance to these specifications. NJ TRANSIT shall notify contractors and subcontractors three (3) working days prior to each in-process visit. Vendor shall notify NJ TRANSIT at least five (5) days prior to pre-paint and final pre-delivery inspections at the contractor's facility.

## **15.0 FINAL INSPECTION**

NJ TRANSIT shall inspect the equipment prior to acceptance and reserve the right to reject it if it does not meet the specifications set forth herein. Upon rejection, the contractor shall, within five (5) days, make any necessary repairs or modifications to bring the equipment into conformance with the specification.

## **16.0 TRAINING**

### **16.1 Training Requirements**

The contractor shall provide training which ensures that NJ TRANSIT personnel clearly understand the functioning of all of the equipment and become capable of taking any actions necessary for the routine and safe operation, maintenance, and emergency repair of the equipment. One (1) training session shall be provided for the vehicle prior to placing vehicle in-service.

### **16.2 Number to be trained**

16.2.1 Operators--up to four (4) NJ TRANSIT operators are to be trained.

16.2.2 Mechanics--up to three (3) NJ TRANSIT Bus mechanics shall to be trained.

16.2.3 Management--up to two (2) managers shall be trained.

16.2.4 There shall be no more than nine (9) persons in any one class.

16.2.5 The vehicle shall not be placed into service until the users are trained in the proper use of the vehicle and associated equipment.

### **16.3 Schedule for Training**

16.3.1 Training shall begin at the site to be determined by NJ TRANSIT after the vehicles are delivered and working properly.

16.3.2 Hours of training are to be between 8:00 A.M. and 2:00 P.M. unless otherwise specifically permitted by NJ TRANSIT

16.3.3 The Contractor shall complete a follow up training at any assigned NJ TRANSIT location within the 45 days of placing the vehicle into service.

### **16.4 Instructors**

The contractor is responsible for insuring that the instructor(s) teaching these training classes are not only familiar with technical information, but are able to properly utilize Methods of Instruction, training aids, audio visuals, etc. to insure effective presentation both in the classroom and in the garage.

## **16.5 Number of Training Classes**

One (1) training class for operators and management and one (1) class for mechanics.

## **17.0 MANUALS**

17.1 One (1) Operator's manual shall be provided for each vehicle. The intent of the Operator's manual is to provide the operator of each vehicle with a description of the day-to-day operation and routine maintenance of the vehicle and all equipment mounted on it.

17.2 Two (2) complete Service and Parts manuals shall be provided for this contract. The intent of the Service and Parts manuals is to provide NJ TRANSIT mechanics with complete service, parts and operation information on any piece of equipment on the truck. The Service and Parts manual(s) shall include:

17.2.1 Complete (factory) shop repair manual for chassis/cab, body, hydraulic system, air compressor, product dispensing systems including pumps, hose reels, filter/strainers, etc. and lighting.

17.2.2 Complete (factory) Parts microfiche/manual for chassis/cab, body, hydraulic system, air compressor, product dispensing systems including pumps, hose reels, filter/strainers, etc. and lighting.

17.2.3 Parts list of all equipment installed on the vehicle not covered in the OEM manufacturer's parts manual.

17.2.4 Complete electrical and hydraulic schematics for OEM chassis/cab and contractor installed equipment.

17.2.5 Manuals shall be presented to the Project Manager for review no later than two (2) weeks prior to delivery of the first vehicle.

## **18.0 DELIVERY**

Payment for the vehicle shall be subject to the following delivery and acceptance requirements:

18.1 The complete and fully operational first truck shall be delivered to NJ TRANSIT no later than 210 calendar days from the date of NJ TRANSIT's purchase order.

The remaining trucks shall be delivered within 30 days thereafter. The vehicle shall be delivered completely lubricated. All fittings shall be properly greased and all fluid levels shall be topped off. **The specification is changed as follows: The delivery date for the first vehicle of 210 calendar days is revised to 240 calendar days. The delivery of the second vehicle remains 30 calendar days after the delivery of the first vehicle.**

- 18.2 Vehicle shall be ready to operate with a valid Vehicle Title, commercial NJ State registration, New Jersey license plates, this can be a valid NJ State temporary registration and temporary New Jersey license plate with final registration and license plates delivered within five (5) days and (Ref. "Acceptance") and shall include NJ State Emission and Federal inspection stickers. The cost for the title, commercial registration and plates shall be included in the bid price. **The specification is clarified as follows: The license plates for both vehicles will be commercial plates registered in the State of New Jersey.**
- 18.3 Vehicle shall be delivered with, at least, one-half tank of fuel.
- 18.4 Contractor shall deliver the specified vehicle Monday through Friday. No vehicles shall be delivered on Saturdays, Sundays or holidays. Hours of delivery shall be 8:00 a.m. through 3:00 p.m.
- 18.5 Dealer's and equipment manufacturer's name (advertisement) shall not appear on any vehicle delivered to NJ TRANSIT. Serial number plates (riveted/screwed) and embossed in metal company logos shall be acceptable.
- 18.6 The vehicle shall not be deemed "Accepted" until all items in the specification are fully met and a reasonable amount of additional time has been allowed for NJ TRANSIT to perform the "Acceptance" inspection.
- 18.7 Delivery shall be determined by signed receipt of NJ TRANSIT's designated agent at the point of delivery.
- 18.8 The point of delivery shall be FOB destination:

NJ TRANSIT Non-Revenue Shop  
601 Doremus Avenue  
Newark, New Jersey 07105

## 19.0 ACCEPTANCE

NJ TRANSIT acceptance shall be based upon the following:

- 19.1 Vehicle inspection in compliance with this specification, including materials and workmanship.

- 19.2. Road test for performance.
- 19.3 Satisfactory operation of all equipment.
- 19.4 Delivery and acceptance of all manuals.
- 19.5 Delivery and acceptance of all engineering layouts and schematics.
- 19.6 Delivery and acceptance of the following documentation:
  - A. Vehicle warranty
  - B. Rustproofing warranty
  - C. Unit weight distribution certification for a fully equipped vehicle assuming three (3) people, full fuel tanks, and 15,000 pounds of payload distributed on the body.
  - D. Written proof of service per spec.
  - E. Factory-certified bare chassis (as built) weight - front, rear and total, for each truck.
  - F. Certified weight slip for completed vehicle - front, rear and total, for each truck.
- 19.7 "Chassis –Cab Manufactured by" sticker installed by the original manufacturer and a "Manufactured by" sticker installed by the body builder shall be affixed to the vehicle as required by 49 CFR, Chapter 5, § 567 and §568.
- 19.8 Completion of training program to include the chassis and all equipment and the new DPF equipped engine.
- 19.9 Contractor secured title, commercial registration and plates for commercial rate, 80,000 GVWR made out to:  
  
New Jersey Transit Flt Services  
One Penn Plaza East  
Newark, NJ 07105-2246  
Corp Code (DL): 59947 79010 71055
- 19.10 Four (4) complete sets of keys including all tool boxes and lockers etc. for each truck, each set on a separate key ring.

**19.11 The Specification is changed as follows: The primary contractor shall provide warranty service to vehicles with-in a 100 mile radius from the Newark Non-Revenue Shop. If the Contractor's facility is beyond the stipulated distance, then the Contractor shall make alternate arrangement to provide service such as an authorized dealer of the chassis or the equipment mounted on the vehicle or a mobile service workshop authorized by the Contractor. Warranty service shall be available on a priority basis with 24 hours of reporting a problem or failure. The warranty facility or alternate arrangement shall be in place and documents sent to NJ TRANSIT before the contract is awarded to the responsive bidder.**

**20.0 PAYMENT:**

NJ TRANSIT shall make the following progress payments.

- 20.1 Fifty percent (50%) of the vehicle price listed on Bid Price Sheet upon verifiable proof of the receipt of the chassis at the Contractor's or the body builder's facility. A copy of the chassis manufacturer's certificate of origin shall be sent to the project manager along with an invoice for the progress payment.
- 20.2 Forty five percent (45%) of the vehicle price listed on Bid Price Sheet upon delivery and acceptance of the vehicle at NJ TRANSIT
- .20.3 Remaining five percent (5%) of the vehicle price listed on Bid Price Sheet upon acceptance and after 45 calendar days of the vehicle being placed in satisfactory service at NJ TRANSIT.

## ATTACHMENT A

### FUEL TRUCK FOR EMERGENCIES

### PROPOSED COMPONENT LIST

COMPONENT	MANUFACTURER	MODEL NUMBER
Chassis and Cab		
Engine		
Transmission		
Body		
Fuel Tank		
Hi-Rail Gear		
Body and equipment installer name and address.		
Strobe Light		
Others, listed below		



## **ATTACHMENT B**

### **§ 214.523 Hi-rail vehicles**

(a) The hi-rail gear of all hi-rail vehicles shall be inspected for safety at least annually and with no more than 14 months between inspections. Tram, wheel wear, and gage shall be measured and, if necessary, adjusted to allow the vehicle to be safely operated.

(b) Each employer (NJ TRANSIT) shall keep records pertaining to compliance with paragraph (a) of this section. Records may be kept on forms provided by the employer (NJ TRANSIT) or by electronic means. The employer (NJ TRANSIT) shall retain the record of each inspection until the next required inspection is performed. The records shall be made available for inspection and copying during normal business hours by representatives of FRA and States participating under part 212 of this chapter. The records may be kept on the hi-rail vehicle or at a location designated by the employer (NJ TRANSIT).

(c) A new hi-rail vehicle shall be equipped with:

(1) An automatic change-of-direction alarm or backup alarm that provides an audible signal at least three seconds long and distinguishable from the surrounding noise; and

(2) An operable 360-degree intermittent warning light or beacon mounted on the outside of the vehicle.

(d)(1) The operator of a hi-rail vehicle shall check the vehicle for compliance with this subpart, prior to using the vehicle at the start of the operator's work shift.

(2) A non-complying condition that cannot be repaired immediately shall be tagged and dated in a manner prescribed by the employer and reported to the designated official.

+(3) Non-complying automatic change-of-direction alarms, backup alarms, and 360-degree intermittent warning lights or beacons shall be repaired or replaced as soon as practicable within seven calendar days.

**ATTACHMENT C**  
**FUEL TRUCK FOR EMERGENCIES**  
**DELIVERABLES**

#	Item	Time of Submission	Specification Reference	Comments
1	Proposed component list	Part of the request for changes Package, before the bid	Section 1.0 Attachment "A"	The list shall include major Component mfg. name and model number
2	Two complete set of layout drawings, weight distribution analysis showing actual weight of the vehicle and available payload capacity	Within 30 calendar days of NJ TRANSIT purchase order to the primary Contractor	Section 1.0	Engineering drawing "D size to a scale of 1/2"= 1 foot.
3	Truck performance analysis	Prior to ordering chassis, within 30 calendar days of NJ TRANSIT purchase order	Section 1.0	
4	Copy of the sales order, complete set of sales data on major components	Within 30 days of NJ TRANSIT purchase order to the primary Contractor	Section 1.0	
5	Submit a detailed production schedule, and a timeline	Within 30 days of NJ TRANSIT purchase order to the primary Contractor	Section 1.0	
6	Approved equal components	Prior to bid date, during request for change period as stated in the IFB documents	Section 1.0	
7	Request for changes	Prior to bid date, as stated in the IFB documents	IFB boiler plate and Section 1.0	Opportunity for the Contractors to request changes or to present alternatives
8	Copy of the certificate of origin of the chassis and an invoice	After the chassis has arrived at the bodybuilder's location	Section "Payment"	Required for the first progress payment
9	In-Plant inspection, Milestone inspection and Pre-paint inspection, line set ticket	As requested by NJ TRANSIT	Section "Inspection"	Fully functional equipment with all major components in place shall be presented. Exceptions shall be items for which mounting locations to be

#	Item	Time of Submission	Specification Reference	Comments
				determined by NJ TRANSIT.
10	Training for the operators, mechanics and management.	As requested by NJ TRANSIT, within one week of delivery	Section" Training"	Second progress payment
11	Manuals, schematics, in paper and electronic format. The parts manuals shall include original manufacturer's part numbers for all major components and purchased items.	One set to the project manager two weeks prior to delivery and two more sets at the time of delivery of the vehicle(s)	Section" Manuals"	
12	Completed, and fully functional vehicle	Within 210 calendar days of purchase order unless authorized by NJ TRANSIT	Section "Delivery"	Second progress payment
13	Registration, safety inspection stickers, warranty, bare chassis and completed vehicle weight, individual axle weights, certified weight ticket	Time of delivery, within 210 days for vehicle 1 /240 days for vehicle 2 of purchase order unless authorized by NJ TRANSIT	Section "Acceptance"	Second progress payment
14	Original title, registration, cab card, three sets of keys per vehicle	Time of vehicle delivery, and the final registration and license plates within a week after the delivery of the vehicle(s)	Section "Acceptance"	Second progress payment
15	Final engineering drawings, two sets	Within 30 days of delivery of the vehicle(s)	Section "Acceptance"	The drawings shall show final as built views of the vehicle with detailed bill of material. Required for final payment
16	Follow-up training	Between 30 and 45 calendar days of initial training on the truck. The follow-up training shall be at the user's operating location.	Section "Training"	Required for final payment
17	Warranty Documents	Training	Warranty	Required for final payment