Citywide Administrative Services

Edna Wells Handy
Commissioner

Sergio Paneque
Deputy Commissioner
Chief Acquisition Officer

1 Centre Street
18th Floor
New York, NY 10007

212 386 0225 tel
212 313 3196 fax

May 22, 2013

Dear Vendor:

Commodity: Ambulance, Type I - FDNY

DATE: 06/28/2013 EST. $ AMT. $70,000,000.00
TIME: 09:30 AM BID NO. 1300471

A Pre-Solicitation Conference on the above commodity was scheduled for:

LOCATION: DCAS/DMSS - 1 Centre Street, New York, NY 10007
18th Floor Pre-Bid Conference Room

The purpose of this conference is to review proposed specifications for the commodity listed above to ensure a good product and maximum competition. Your participation will assist us in revising these specifications so they can be issued as part of a final bid package. The exchange of information among buyers and sellers is necessary so vendors can understand City requirements and the City can obtain industry advice on current standards, new technology, commercial equivalents and new products and product lines.

Please make every effort to attend this conference and contribute your commercial expertise to the City's purchasing program.

If specifications are attached, please review them before the meeting, note any suggested changes on your copy, and bring it with you to facilitate discussion.

If you cannot attend the conference, we would appreciate your review and submission to the Procurement Analyst of suggested changes, additions or deletions. Your suggestions will be considered in developing the final bid package.

Very truly yours,

Masha Rudina
Purchase Director

For further information, please contact:
Procurement Analyst: Ed Andersen at 212-669-8509

PIN: 8571300471

SPECIAL INSTRUCTION TO BIDDERS
CONTRACT SPECIFIC TERMS AND CONDITIONS

CITY OF NEW YORK
DEPARTMENT OF CITYWIDE ADMINISTRATIVE SERVICES
DIVISION OF MUNICIPAL SUPPLY SERVICES
MUNICIPAL BUILDING, NEW YORK, NY 10007

BID NUMBER: 1300471.

BID TITLE: AMBULANCE, TYPE 1 - FDNY

ALL INQUIRIES REGARDING THIS BID ARE TO BE DIRECTED TO:
PURCHASING AGENT: EDWARD ANDERSEN AT (212) 669-8509

VENDORS WILL BE SEEN BY APPOINTMENT ONLY

TYPE OF CONTRACT: THIS IS A "C" CONTRACT (REQUIREMENT CONTRACT) AS DEFINED IN THE NEW YORK CITY PURCHASE CONTRACT, PART II, PARAGRAPH 2.8, OR, IF APPLICABLE, THE NEW YORK CITY SERVICE CONTRACT, PART II, PARAGRAPH 2.6.

IN ACCORDANCE WITH THE NEW YORK CITY PURCHASE CONTRACT, PART II, SECTION 5.6 - ALTERNATE PRODUCTS - OR, IF APPLICABLE, THE NEW YORK CITY SERVICE CONTRACT, PART II, SECTION 5.5 - ALTERNATE SERVICES:

A BIDDER MAY NOT BID MULTIPLE PRODUCTS OR SERVICES FOR ONE BID ITEM. IF A BIDDER OFFERS MORE THAN ONE, ONLY THE LOWEST PRICE OFFERING WILL BE CONSIDERED. IF THE PRICE OFFERINGS ARE IDENTICAL, ONLY THE FIRST ITEM LISTED WILL BE CONSIDERED.

PRODUCTS OFFERED SHOULD BE MANUFACTURED FROM RECYCLED, RECOVERED, OR ENVIRONMENTALLY PREFERABLE MATERIALS TO THE MAXIMUM EXTENT POSSIBLE PROVIDED THAT THE PRODUCT MEETS ALL SPECIFICATIONS AND PERFORMANCE CRITERIA AND PROMOTES ECONOMICALLY ADVANTAGEOUS LIFE CYCLE COSTS.

WHENEVER PRACTICABLE, PACKAGING SHALL ELIMINATE WASTE; REDUCE WASTE BY WEIGHT, VOLUME AND TOXICITY WITHOUT SUBSTITUTING A MATERIAL THAT IS NOT RECYCLABLE; AND SHOULD CONTAIN RECYCLED CONTENT.

NOTE: UNLESS OTHERWISE PROVIDED, RECYCLED PRODUCTS MADE PRIMARILY FROM A SINGLE MATERIAL IN THIS BID MAY BE ELIGIBLE FOR A PRICE PREFERENCE CONSIDERATION OF UP TO 10% FOR PAPER PRODUCTS AND 5% FOR NON-PAPER PRODUCTS, OVER A LOW BID PRODUCT CONTAINING LESS OR NO RECYCLED CONTENT.

VENDORS OFFERING SUCH PRODUCTS MUST SPECIFY BELOW:

ITEM:.....
MATERIAL MADE FROM:.....
PERCENT OF RECYCLED CONTENT IN PRODUCT:.....
NATURE OF RECYCLED CONTENT:.....

YOU MAY BE CONTACTED TO PROVIDE ADDITIONAL INFORMATION REGARDING THE PRODUCT.

METAL PRODUCTS, PRODUCTS NOT MADE PRIMARILY FROM A SINGLE MATERIAL AND AGGREGATE PURCHASES (CLASS, CATALOGUE AND PRICE LIST) ARE NOT ELIGIBLE FOR A PRICE PREFERENCE UNLESS OTHERWISE SPECIFIED IN THIS BID.

THE CITY RESERVES THE RIGHT TO DISAPPROVE ANY PROVIDER(S) OF GOODS AND/OR SERVICES USED BY THE PRIME VENDOR/CONTRACTOR TO FULFILL ANY CONTRACT RESULTING FROM THIS SOLICITATION. AS USED IN THIS SECTION, A "PROVIDER" SHALL INCLUDE, BUT NOT BE LIMITED TO, A SUBCONTRACTOR, A SUPPLIER OF GOODS AND/OR SERVICES, AND THE MANUFACTURER(S) OF ANY GOODS BEING PROCURED UNDER SUCH CONTRACT. A VENDOR WHO IS AWARDED A CONTRACT PURSUANT TO THIS SOLICITATION MAY, AT THE CITY'S OPTION, BE ASKED TO PROVIDE TO THE CITY A LIST OF PROVIDERS AND, FOR EACH PROVIDER, ITS ADDRESS AND THE NAME OF ITS PRINCIPALS.

IN ADDITION, THE VENDOR MAY BE ASKED TO PROVIDE, ANY OTHER INFORMATION DEEMED NECESSARY BY THE CITY TO DETERMINE WHETHER A PROVIDER SHALL BE DISAPPROVED. FURTHERMORE, DURING THE TERM OF SUCH CONTRACT, THE VENDOR MAY BE ASKED TO SUPPLY TO THE CITY ALL SUCH INFORMATION REGARDING ANY ADDITIONAL PROVIDER(S) IT INTENDS TO USE.

THE CITY RESERVES THE RIGHT TO WITHDRAW ANY APPROVAL IT HAS GIVEN, WHERE SUCH WITHDRAWAL OF APPROVAL IS BASED ON INFORMATION RECEIVED SUBSEQUENT TO THE APPROVAL. THE VENDOR MAY NOT USE A PROVIDER THAT HAS BEEN DISAPPROVED BY THE CITY OR WHOSE APPROVAL HAS BEEN WITHDRAWN.

PURSUANT TO PROCUREMENT POLICY BOARD RULE 2-08(F)(2),THE CONTRACTOR WILL BE CHARGED A FEE FOR THE ADMINISTRATION OF THE VENDEX SYSTEM, INCLUDING THE VENDOR NAME CHECK PROCESS, IF A VENDOR NAME CHECK REVIEW IS REQUIRED TO BE CONDUCTED BY THE DEPARTMENT OF INVESTIGATION. THE CONTRACTOR SHALL ALSO BE REQUIRED TO PAY THE APPLICABLE REQUIRED FEES FOR ANY OF ITS SUB-CONTRACTORS FOR WHICH VENDOR NAME CHECK REVIEWS ARE REQUIRED. THE FEE(S) WILL BE DEDUCTED FROM PAYMENTS MADE TO THE CONTRACTOR UNDER THE CONTRACT.

FOR CONTRACTS WITH AN ESTIMATED VALUE OF LESS THAN OR EQUAL TO $1,000,000, THE FEE WILL BE $175.

FOR CONTRACTS WITH AN ESTIMATED VALUE OF GREATER THAN $1,000,000, THE FEE WILL BE $350.

PURSUANT TO RECENT AMENDMENTS TO STATE LAW EXPECTED TO TAKE EFFECT PRIOR TO THE AWARD OF THIS CONTRACT, PURCHASE CONTRACTS SUBJECT TO GML SECTION 103, (INCLUDING CONTRACTS FOR SERVICE WORK, BUT EXCLUDING ANY PURCHASE CONTRACTS NECESSARY FOR THE COMPLETION OF A PUBLIC WORKS CONTRACT PURSUANT TO ARTICLE EIGHT OF THE LABOR LAW) SHALL BE AWARDED ON THE BASIS OF BEST VALUE AS DEFINED IN THE STATE FINANCE LAW SECTION 163. STATE FINANCE LAW SECTION 163(1)(J) DEFINES BEST VALUE AS THAT BID OR OFFER THAT OPTIMIZES QUALITY, COST, AND EFFICIENCY.

ACCORDINGLY, THIS CONTRACT WILL BE AWARDED ON THE BASIS OF BEST VALUE TO THE CITY, WHICH WILL BE DETERMINED TO BE THE LOWEST RESPONSIVE AND RESPONSIBLE BIDDER, PROVIDED HOWEVER THAT THE MAYOR MAY, PURSUANT TO CHARTER SECTION 313(B)(2), DIRECT THE AGENCY TO AWARD THIS CONTRACT TO OTHER THAN THE LOW BIDDER IN THE BEST INTERESTS OF THE CITY BY DETERMINING, IN WRITING, THAT ANOTHER BID OPTIMIZES QUALITY, COST AND EFFICIENCY AND IS THUS THE BEST VALUE TO THE CITY. AN AWARD TO OTHER THAN THE LOW BIDDER MAY ONLY BE MADE TO A BIDDER WHOSE BID IS WITHIN 10% OF THE LOWEST RESPONSIVE AND RESPONSIBLE BID.

****
THIS BIDBOOK MUST BE RETURNED INTACT WITH THE PAGES IN SEQUENCE AS ORIGINALLY RECEIVED. REMOVAL OF ANY PAGE(S) MAY BE CAUSE FOR BID DISQUALIFICATION.
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THIS BID IS FOR THE PROCUREMENT OF AMBULANCES FOR THE FIRE DEPARTMENT OF THE CITY OF NEW YORK.

PERIOD OF CONTRACT:
DECEMBER 1, 2013 THRU NOVEMBER 30, 2016

THE CITY RESERVES THE RIGHT, PRIOR TO CONTRACT REGISTRATION, TO CHANGE (ADJUST) THE START AND END DATES AS NOTED ABOVE. THE CITY FURTHER RESERVES THE RIGHT TO CHANGE (ADJUST) THESE DATES AFTER CONTRACT REGISTRATION TO REFLECT THE ACTUAL COMPTROLLER'S REGISTRATION DATE.

CONTRACT QUANTITIES: QUANTITIES SPECIFIED HEREIN ARE ESTIMATES BASED ON EXPERIENCE. THE QUANTITIES TO BE ORDERED ARE ONLY THOSE NEEDED BY THE AGENCY. THE CITY WILL NOT BE COMPELLED TO ORDER ANY SPECIFIC QUANTITY OF ANY ITEM, NOR WILL THE CITY BE LIMITED TO THE QUANTITY SPECIFIED.

QUALIFICATIONS OF BIDDERS: BIDS WILL BE ACCEPTED ONLY FROM MANUFACTURERS OR THEIR AUTHORIZED DISTRIBUTORS WHO HAVE BEEN ACTIVELY ENGAGED IN THE SALE OR MANUFACTURE OF AMBULANCES AND OR EQUIPMENT OR OTHER VEHICLES FOR A PERIOD OF NOT LESS THAN FIVE YEARS.

********** BIDDER CERTIFICATE **********

EACH BIDDER MUST INDICATE THE MANNER IN WHICH HE INTENDS TO MEET THE BID SPECIFICATION(S) BY COMPLETELY AND COMPETENTLY FILLING OUT THE "BIDDERS CERTIFICATE" ATTACHED TO THE BID SPECIFICATIONS, AND SUBMITTING IT WITH HIS BID PROPOSAL.
THE BIDDERS CERTIFICATE SHALL BECOME AN INTEGRAL PART OF THIS CONTRACT AND SCHEDULE. THERE SHALL BE "NO" SUBSTITUTION, NOR MODIFICATION OF BID SPECIFICATIONS WITHOUT THE WRITTEN CONSENT OF THE DIVISION OF MUNICIPAL SUPPLY SERVICES ONCE THE PURCHASE ORDER IS GENERATED.

PRE-CONSTRUCTION MEETING: A PRE-CONSTRUCTION CONFERENCE SHALL BE HELD IN THE CITY OF NEW YORK FOLLOWING AWARD OF CONTRACT. THE CHASSIS AND BODY MANUFACTURER SHALL PROVIDE QUALIFIED ENGINEERING PERSONNEL TO ATTEND THIS MEETING. EACH AND EVERY PORTION OF THE VEHICLE SHALL BE REVIEWED AT THIS MEETING. APPROVAL DRAWINGS FOR CONSTRUCTION SHALL BE COMPLETED FOR THIS PRE-CONSTRUCTION MEETING. ALL COST OF SUCH A MEETING SHALL BE AT MANUFACTURER'S EXPENSE.

ALL VEHICLES ARE TO BE DELIVERED WITHIN THE SPECIFICATIONS GUIDELINES. ALL VEHICLES DELIVERED UNDER THIS CONTRACT MUST BE DELIVERED CLEAN AND HAVE FULL TANKS OF FUEL.
DELIVERY POINT:

FIRE DEPARTMENT; CITY OF NEW YORK
48-58 35TH STREET
LONG ISLAND CITY, NEW YORK
ATTN: DIRECTOR OF FLEET SERVICES
718 784-6500

VEHICLES OFFERED MUST COMPLY WITH ALL APPLICABLE NEW YORK STATE AND FEDERAL REGULATIONS FOR MOTORIZED VEHICLES.

VEHICLES WITH HANDICAP ACCESS MUST COMPLY WITH THE AMERICANS WITH DISABILITIES ACT (ADA).

ALL VEHICLES THAT REQUIRE STATE INSPECTION SHALL BE DELIVERED WITH A VALID NYS INSPECTION STICKER.

INVOICE IS TO BE SENT TO THE ADDRESS INDICATED ON THE PURCHASE ORDER.

DELIVERY SCHEDULE: PER SPECIFICATION.

ALL PRICES ARE TO BE ON THE BASIS OF F.O.B. DELIVERY POINT, UNLOADED, AND INSIDE. ALL DELIVERY CHARGES ARE TO BE INCLUDED IN PRICES BID.

NOTWITHSTANDING ANY PROVISIONS CONTAINED IN THIS CONTRACT, THE USING AGENCY, IN CONJUNCTION WITH AND WITH THE APPROVAL OF THE CITY OF NEW YORK'S DEPARTMENT OF CITYWIDE ADMINISTRATIVE SERVICES, DIVISION OF MUNICIPAL SUPPLY SERVICES, MAY ADJUST THE DELIVERY SCHEDULE BASED ON PILOT INSPECTIONS, CHANGES, OR AMPLIFICATIONS IN SPECIFICATIONS. THIS PROVISION SHALL ALSO APPLY TO ENGINEERING CHANGES THAT REQUIRE COMPLIANCE WITH FEDERAL, STATE OR LOCAL MOTOR VEHICLE SAFETY STANDARDS.

ANY FRAME MODIFICATIONS TO THE VEHICLE SHALL BE PERFORMED IN ACCORDANCE WITH OEM RECOMMENDED PROCEDURES SUCH AS THE PROCEDURES FOLLOWED BY THE FORD QVM QUALIFIED VEHICLE MODIFIERS AND GM SVM SPECIAL VEHICLE MANUFACTURER PROGRAMS.

A CERTIFICATION THAT THESE PROCEDURES WERE FOLLOWED MAY BE REQUIRED.

GUARANTEE/WARRANTY: WARRANTY OFFERED SHALL MEET OR EXCEED THAT STATED IN THE ATTACHED SPECIFICATION(S).

RESEARCH AND DEVELOPMENT (R&D) CLAUSE: THIS DEPARTMENT RESERVES THE OPTION, FOR THE PURPOSE OF RESEARCH AND DEVELOPMENT, TO MODIFY OR RECONFIGURE VEHICLES PURCHASED UNDER THIS CONTRACT. THESE CHANGES MAY INVOLVE THE MODIFICATION OR THE SUBSTITUTION OF ANY COMPONENT, AS WELL AS CONTINGENT EQUIPMENT INCLUDING, BUT NOT LIMITED TO, THE DRIVE TRAIN, BODY, SUB ASSEMBLIES AND SUPPORTING COMPONENT HARDWARE. THESE MODIFICATIONS AND/OR SUBSTITUTIONS MAY ALSO INCLUDE CHANGES TO INTRODUCE NEW PRIMARY PROPULSION SYSTEMS (I.E. DIESEL, C.N.G., ELECTRIC-HYDRAULIC, HYBRID POWER, ETC.) TO VEHICLES AND EQUIPMENT COVERED WITHIN THE CONTRACT PARAMETERS.

THOSE VEHICLES THAT MAY BE SELECTED FOR RESEARCH AND DEVELOPMENT MODIFICATIONS AS DESCRIBED ABOVE, WILL BE DICTATED BY TECHNOLOGICAL ADVANCES AND INNOVATIONS WITHIN THE INDUSTRY AS THEY BECOME AVAILABLE, AND WILL BE QUANTIFIED ON EACH PURCHASE ORDER.
IN THE EVENT THAT THE CITY ELECTS TO INVOKE THIS CLAUSE, THE CITY SHALL NOTIFY THE VENDOR IN WRITING OF SUCH DECISION.

INSPECTION:
THE INSPECTON OF THE ITEMS CONTAINED HEREIN SHALL BE MADE BY

NYC DEPT. OF CITYWIDE ADMINISTRATIVE SERVICES
DIVISION OF MUNICIPAL SUPPLY SERVICES
BUREAU OF QUALITY ASSURANCE
1 CENTRE STREET, 18TH FLOOR
NEW YORK, N.Y. 10007

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO KEEP THE CITY APPRISED AS TO WHEN ANY ITEMS WILL BE READY FOR INSPECTION. CONTRACTORS ARE INSTRUCTED TO CONTACT, BUREAU OF QUALITY ASSURANCE (BQA) AT 212 669-7518/7519 AT LEAST FOURTEEN DAYS PRIOR TO THE INSPECTION DATE.

THE INSPECTION OF THESE ITEMS SHALL BE MADE AT ANY OR ALL OF THE FOLLOWING LOCATIONS:
CONTRACTOR'S FACTORY OR SERVICE STATION,
SUB-CONTRACTOR'S FACTORY OR SERVICE STATION OR
DELIVERY LOCATION.

THE CITY REPRESENTATIVE FOR BQA SHALL BE PERMITTED FULL ACCESS TO ALL PARTS OF THE PLANT WHEN AND WHERE WORK ON THIS CONTRACT IS BEING PERFORMED. REPRESENTATIVES FOR BQA SHALL BE NOTIFIED OF AND GIVEN AN OPPORTUNITY TO BE PRESENT AT ALL TESTS OF MATERIAL OR WORKMANSHIP AND SHALL BE PROVIDED WITH ALL NECESSARY FACILITIES IN EXAMINING AND MEASURING ALL PARTS AND EQUIPMENT TESTS. THE EXPENSE OF ALL TESTS (LABORATORY, SHOP AND FIELD) SHALL BE BORNE BY THE CONTRACTOR AND BE INCLUDED IN UNIT PRICE.

ANY RECEIPT GIVEN TO THE CONTRACTOR BY A REPRESENTATIVE OF THE DEPARTMENT RECEIVING THE ITEM(S) SHALL NOT CONSTITUTE FINAL OR OFFICIAL CITY ACCEPTANCE. UPON COMPLETION OF TESTS AND EVALUATION, FINAL ACCEPTANCE SHALL ONLY BE GRANTED BY THE BUREAU OF QUALITY ASSURANCE AT A LOCATION TO BE DETERMINED BY THE CITY OF NEW YORK.

GOVERNMENT MANDATED PROGRAM PRICE ADJUSTMENT:
AN ADJUSTMENT IN PRICE MAY BE PERMITTED IF A GOVERNMENT MANDATED PROGRAM (E.G., NEW STANDARD FOR EMISSIONS) TAKES EFFECT, SUITABLE DOCUMENTATION IS FURNISHED TO THE NYC DEPARTMENT OF CITYWIDE ADMINISTRATIVE SERVICES (DCAS) AND DCAS DETERMINES THE REQUESTED PRICE CHANGE IS VERIFIABLE AND IS REASONABLE. THE EFFECTIVE DATE FOR THE PRICE INCREASE WILL BE AS STATED IN THE CONTRACT MODIFICATION.

PRICE ESCALATION
A PRICE INCREASE WILL BE ALLOWED ON THIS CONTRACT AFTER IT HAS BEEN IN EFFECT FOR ONE YEAR. PRICES OF AMBULANCES SHALL BE ADJUSTED ACCORDING TO A FORMULA TAKING INTO ACCOUNT CHANGES IN THE PRODUCER PRICE INDEX (PPI) AND CHANGES IN THE MANUFACTURERS' PRICES FOR THE CHASSIS AND RADIO EQUIPMENT. THE PRICE OF THE COMPLETE AMBULANCE SHALL BE DIVIDED INTO THREE COMPONENTS: CHASSIS, RADIO EQUIPMENT, AND ALL OTHER PARTS, PROFIT, OVERHEAD AND MANUFACTURING COSTS (MANUFACTURING COSTS). THE CHASSIS AND RADIO EQUIPMENT SHALL BE AT OEM COST AND SHALL NOT INCLUDE ANY MARKUPS OR ADDITIONS.

THEREAFTER, ONE PRICE INCREASE REQUEST WILL BE CONSIDERED PER YEAR. PRICE DECREASES MUST BE OFFERED AS SOON AS THEY BECOME AVAILABLE OR IMMEDIATELY UPON NOTIFICATION BY THE DIVISION OF MUNICIPAL SUPPLY SERVICES (DMSS).

NOTIFICATION OF PRICE CHANGES MUST BE ADDRESSED IN WRITING TO THE:
ASSISTANT COMMISSIONER, PROCUREMENT
DEPARTMENT OF CITYWIDE ADMINISTRATIVE SERVICES,
DIVISION OF MUNICIPAL SUPPLY SERVICES (DMSS),
1 CENTRE STREET, 18TH FLOOR,
NEW YORK, NEW YORK 10007

THIS CONTRACT MAY BE TERMINATED BY THE CITY OF NEW YORK IN THE EVENT THAT PRICE INCREASES OR DECREASES DO NOT REFLECT INDUSTRY DOCUMENTATION.

NO PRICE CHANGE WILL BECOME EFFECTIVE UNLESS APPROVED BY THE ASSISTANT COMMISSIONER - PROCUREMENT OR HIS/HER DESIGNEE.

30 DAYS NOTICE MUST BE GIVEN ON ALL PRICE CHANGE REQUESTS. PRICE CHANGE REQUESTS, IF APPROVED, WILL EFFECT FUTURE ORDERS ONLY. ANY PURCHASE ORDER THAT HAS ALREADY BEEN GENERATED WILL REFLECT THE THEN CURRENT PRICE.

THE DOCUMENTATION ON PRICE INCREASES MUST SUBSTANTIATE THE CHANGE IN PRICE. ACCEPTABLE DOCUMENTATION INCLUDES, BUT IS NOT LIMITED TO:

1. MANUFACTURER NOTICE OF PRICE INCREASE

2. CHANGES IN THE PRODUCER PRICE INDEX, AS DESCRIBED BELOW.

   (VENDOR MUST HAVE AND SUPPLY BOTH.)

FOR SUBSEQUENT CONTRACT YEARS, THE PRICE OF THE COMPLETE AMBULANCE SHALL BE ARRIVED AT BY ADDING THE ADJUSTED CHASSIS COST, THE ADJUSTED RADIO EQUIPMENT COST, AND THE ADJUSTED MANUFACTURING COST. THE CHASSIS AND RADIO EQUIPMENT COSTS SHALL BE ADJUSTED TO THE SAME EXTENT AS THE OEM COST TO THE PRIME VENDOR FOR THESE ITEMS, I.E. ANY CHANGES WILL BE DIRECTLY PASSED ALONG. THE MANUFACTURING COST SHALL BE ADJUSTED BASED ON THE THE PPI INDEX SERIES ID WPU141302, TRANSPORTATION EQUIPMENT, COMPLETED VEHICLES ON PURCHASED CHASSIS.

THE MANUFACTURING COST IS DEFINED AS THE MATERIAL COST OF THE VEHICLE. THIS AMOUNT IS ARRIVED AT BY TAKING BID PRICE MINUS CHASSIS COST MINUS RADIO EQUIPMENT COST MINUS PROFIT, OVERHEAD, AND ADMINISTRATIVE COSTS. INSERT THIS PRICE IN THE BOX ON PAGE C001.

PRICE CHANGE CALCULATIONS WILL BE MADE UTILIZING THE PRODUCER PRICE INDEX(ES) STATED BELOW, AS COMPILED BY THE U.S. DEPARTMENT OF LABOR/BUREAU OF LABOR STATISTICS. THE PRICE CHANGE CALCULATION WILL BE BASED ON THE PERCENT CHANGE FROM THE BASE DATE TO THE MOST RECENT ACTUAL DATE.

ONLY THE MOST RECENT ACTUAL DATA WILL BE USED, NOT PRELIMINARY. ALL INDEXES ARE SUBJECT TO REVISION FOUR (4) MONTHS AFTER ORIGINAL PUBLICATION.

THE BASE DATE FOR THE PURPOSES OF THIS CONTRACT IS: DECEMBER 2013.

ONCE A PRICE INCREASE HAS BEEN GRANTED, IF A SECOND PRICE INCREASE IS REQUESTED, THE BASIS FOR THAT INCREASE WILL BE THE ACTUAL UTILIZED FOR THE FIRST INCREASE.

PRICE CHANGE CALCULATIONS FOR THE MANUFACTURING COST WILL BE BASED ON THE PERCENT CHANGE FOR TRANSPORTATION EQUIPMENT, COMPLETED VEHICLES ON PURCHASED CHASSIS.
SERIES ID: WPU141302

ADJUSTED PRICE = MFCG COST X {1 + (B - A)/A}

WHERE: MFCG COST = MANUFACTURING COST

A = PPI FOR THE BASE MONTH

B = MOST RECENT ACTUAL PPI

EXAMPLE CALCULATION OF PRICE ADJUSTMENT:

MANUFACTURING PRICE: $20,000
BASE PPI: 134.3
CURRENT PPI: 137.1

ADJ PRICE = $20000 X {1 + (137.1-134.3)/134.3}
= $20000 X {1 + (2.8)/134.3}
= $20000 X {1 + .0208}
= $20000 X 1.0208
= $20416.98

THE ADJUSTED CONTRACT PRICE OF THE COMPLETE AMBULANCE IS THAN CALCULATED AS THE SUM OF THE BASELINE (PROFIT, OVERHEAD, AND ADMINISTRATIVE COSTS) PLUS THE ADJUSTED MANUFACTURING COST PLUS THE ADJUSTED PRIME VENDOR COSTS FOR THE CHASSIS AND RADIO EQUIPMENT.

INSPECTION EXPENSE:

WITHIN 30 DAYS OF RECEIPT OF THE PURCHASE ORDER, THE SUCCESSFUL VENDOR MUST ISSUE A CHECK IN THE AMOUNT OF $25,000.00 TO THE DEPARTMENT OF CITYWIDE ADMINISTRATIVE SERVICES FOR INSPECTION EXPENSES. THIS IS TO COVER TRAVELING EXPENSES OF THE CITY'S REPRESENTATIVES. THE VENDOR MUST INCLUDE THIS AMOUNT ON THEIR FIRST INVOICE FOR REIMBURSEMENT. MAIL CHECK TO:
DEPARTMENT OF CITYWIDE ADMINISTRATIVE SERVICES
DIVISION OF MUNICIPAL SUPPLY SERVICES
BUREAU OF QUALITY ASSURANCE, 18TH FLOOR
1 CENTRE STREET
NEW YORK, N.Y. 10007

WHEN DELIVERED,EACH VEHICLE/APPARATUS MUST BE COMPLETELY ASSEMBLED, SERVICED AND READY FOR OPERATION. THIS INCLUDES ANY AUXILIARY UNITS ATTACHED OR MOUNTED TO BASIC UNIT. ANY EXPOSED CHAIN OR GEAR SHALL BE PROVIDED WITH A SUITABLE GUARD.

TITLE AND RISK OF LOSS: WILL REMAIN THE CONTRACTOR'S UNTIL THE COMPLETE UNIT IS FINALLY DELIVERED AND ACCEPTED BY THE CITY.

VENDOR WILL DELIVER WITH THE VEHICLE ALL FORMS REQUIRED BY THE NEW YORK STATE DEPARTMENT OF MOTOR VEHICLES TO REGISTER AND OBTAIN TITLE OF THE VEHICLE. THESE FORMS INCLUDE MV-82 (REGISTRATION/TITLE APPLICATION), BILL OF SALE, AND THE MANUFACTURERS CERTIFICATE OF ORIGIN (PROOF OF OWNERSHIP).

UNLESS OTHERWISE INSTRUCTED, THE AGENCY NAMED ON THE TITLE AND REGISTRATION FORMS WILL BE THE SAME AS THE AGENCY NAMED ON THE PURCHASE ORDER.

VEHICLES MAY BE ORDERED WITH OPTIONAL EQUIPMENT. ALL OEM OPTIONS ORDERED WITH THE VEHICLE SHALL BE AT DEALER COST. NON-OEM DEALER INSTALLED OPTIONS SHALL BE AT DEALER COST +10%. PRICE QUOTATIONS FOR DEALER INSTALLED OPTIONS MUST BE PROVIDED PRIOR TO ISSUANCE OF A PURCHASE ORDER.

THE VEHICLE, WHEN DELIVERED, MUST MEET ALL APPLICABLE FEDERAL, NEW YORK STATE AND NEW YORK CITY LAWS (INCLUDING, FOR EXAMPLE, BUT NOT LIMITED TO, SECTION 86.004-11 OF THE CODE OF FEDERAL REGULATIONS).

AT THE TIME OF BID SUBMISSION, VENDOR MUST INCLUDE IN BID THE PRICING FOR ALL KNOWN TECHNOLOGIES REQUIRED TO MEET THE CURRENT REGULATIONS AND THE PRICING FOR ANY TECHNOLOGY ALREADY DEVELOPED TO MEET FUTURE REQUIREMENTS.

IF, AFTER ISSUANCE OF A PURCHASE ORDER UNDER THIS CONTRACT, NEW GOVERNMENTAL REGULATIONS ARE PROMULGATED AND NEW EQUIPMENT IS REQUIRED TO MEET THESE REGULATIONS AND THE EXTRA COST FOR THIS EQUIPMENT WAS NOT ANTICIPATED, AND COULD NOT HAVE BEEN ANTICIPATED, WHEN THE BID WAS SUBMITTED AND THE PURCHASE ORDER WAS ISSUED, AWARDED VENDOR MAY BE ELIGIBLE FOR A PRICE INCREASE ON THE PURCHASE ORDER. PLEASE BE ADVISED THAT IF NO NEW TECHNOLOGY IS REQUIRED, VENDOR WILL NOT BE ELIGIBLE FOR A PRICE INCREASE.

THE FOLLOWING MINIMAL REQUIREMENTS MUST BE MET FOR DCAS TO CONSIDER A PRICE INCREASE:

1. VENDOR MUST SUBMIT A LETTER REQUESTING THE INCREASE, STATING THE DOLLAR AMOUNT OF THE INCREASE AND SPECIFICALLY STATING WHAT THE INCREASE WILL COVER;

2. VENDOR MUST INCLUDE A CERTIFICATION FROM THE REGULATORY AUTHORITY (THE NYC DEPARTMENT OF ENVIRONMENTAL PROTECTION) THAT THE PROPOSED SOLUTION BRINGS THE VEHICLE IN COMPLIANCE WITH THE CURRENT EMISSION LAWS; AND

3. A MANUFACTURER'S INVOICE SHOWING THE VENDOR'S TOTAL COST FOR THE EQUIPMENT, INCLUDING INSTALLATION. VENDOR CANNOT CHARGE THE CITY MORE THAN 10 % ABOVE THE VENDOR'S COST FOR THE EQUIPMENT, INCLUDING INSTALLATION.

THE REQUEST FOR THE PRICE INCREASE AND ALL SUPPORTING DOCUMENTATION IS TO BE SENT IN WRITING TO:

ASSISTANT COMMISSIONER - PROCUREMENT
DEPT OF CITYWIDE ADMINISTRATIVE SERVICES
DIVISION OF MUNICIPAL SUPPLY SERVICES (DMSS)
1 CENTRE STREET, 18TH FLOOR
NEW YORK, NY 10007

A MINIMUM OF 30 DAYS ADVANCE NOTICE IS REQUIRED FOR ALL SUCH REQUESTS.

THE DETERMINATION TO APPROVE A PRICE INCREASE REQUEST WILL BE AT THE SOLE DISCRETION OF THE ASSISTANT COMMISSIONER - PROCUREMENT.

THE PRICE INCREASE, IF APPROVED, WILL BE REFLECTED IN A WRITTEN MODIFICATION TO THE CONTRACT. THE EFFECTIVE DATE OF THE PRICE INCREASE WILL BE AS STATED IN THE MODIFICATION.

BASIS FOR AWARD: THE AWARD, FOR ITEMS, CLASSES/ ZONES IN THIS SCHEDULE, SHALL BE BASED ON THE LOWEST RESPONSIVE AND RESPONSIBLE BIDDER, MEETING OR EXCEEDING SPECIFICATIONS FOR OVERALL PERFORMANCE.

USAGE REPORT
A USAGE REPORT SHOWING AGENCY, ITEM DESCRIPTION, UNIT OF ISSUE, QUANTITY ORDERED AND DOLLAR VALUE OF ALL ITEMS ORDERED IS REQUIRED ON A QUARTERLY BASIS.

THE FIRST REPORT WILL BE REQUIRED THREE (3) MONTHS AFTER CONTRACT START DATE, SUBSEQUENT REPORTS ARE REQUIRED EVERY THREE (3) MONTHS THEREAFTER.

REPORTS SHOULD COVER THE CURRENT PERIOD AS WELL AS TOTAL CONTRACT PERIOD TO DATE. THE REPORT MAY BE SUBMITTED IN HARD COPY, ON CD ROM, OR VIA E-MAIL.

THE REPORT SHALL BE FORMATTED TO INCLUDE: THE CONTRACT NAME, RC NUMBER AND TERM OF THE CONTRACT AT THE TOP. THE REPORT SHALL INDICATE THE PERIOD OF TIME COVERED BY THE REPORT. THE REPORT IS TO BE ORGANIZED TO SHOW AGENCY, ITEM ORDERED, UNIT OF ISSUE, QUANTITY ORDERED AND DOLLAR VALUE.

THE USAGE REPORT SHALL BE SENT TO THE ATTENTION OF THE PROCUREMENT ANALYST WHOSE NAME IS LISTED ON PAGE B001, AT THE FOLLOWING ADDRESS:

CITY OF NEW YORK
DEPARTMENT OF CITYWIDE ADMINISTRATIVE SERVICES
DIVISION OF MUNICIPAL SUPPLY SERVICES
1 CENTRE STREET, 18TH FLOOR
NEW YORK, NY 10007

NOTE:
THIS CONTRACT MAY BE SUBJECT TO VENDEX PRIOR TO AWARD. SHOULD VENDEX BE REQUESTED, VENDOR IS ADVISED THAT THE REQUESTED INFORMATION WILL BE REQUIRED WITHIN 30 (THIRTY) DAYS.

FAILURE TO RESPOND IN THE THIRTY DAY TIME FRAME MAY BE CAUSE FOR BID DISQUALIFICATION.

VENDEX FORMS ARE AVAILABLE FOR DOWNLOAD FROM:

WWW.NYC.GOV/VENDEX

PLEASE SEE PAGE BOO3 FOR ADDITIONAL VENDEX INFORMATION.

DESCRIPTION	QUANTITY	UOI	UNIT PRICE	EXTENSION

CLASS/ZONE AWARD 01

ITEM NUMBER: 1. COMM. C070 03

AMBULANCES TYPE I:PER ATTACHED FDNY SPECIFICATION 330. EACH $_____ $_____
DATED JANUARY 31, 2013

BIDDERS TAKE NOTE !!

BIDDERS SHOULD LIST THE COST FOR THE TRUCK CHASSIS AND RADIO EQUIPMENT IN THE SPACE BELOW.

CHASSIS $..... RADIO EQUIP $.....

MANUFACTURING COST $.....

BIDDER TO INCLUDE MATERIAL COST:
(SEE PRICE ADJUSTMENT CLAUSES)

FAILURE TO INCLUDE MATERIAL COST WILL PRECLUDE ANY FUTURE PRICE ADJUSTMENT.

THE FDNY RESERVES THE RIGHT TO ORDER DIFFERENTLY CONFIGURED VEHICLES FOR THE PURPOSE OF TESTING NEW TECHNOLOGIES AND INNOVATIONS.

PRIOR TO SUBMITTING ANY SUCH ORDER, THE AWARDED VENDOR WILL BE ADVISED BY LETTER OF THE FDNY INTENT AND WILL BE ASKED TO PROVIDE THE COST DIFFERENTIAL, IF ANY, FOR THE DIFFERENTLY CONFIGURED VEHICLE. NO ORDER FOR SUCH A VEHICLE WILL BE ISSUED PRIOR TO FDNY APPROVING THE COST DIFFERENTIAL.

FDNY WILL ONLY PAY THE APPROVED COST DIFFERENTIAL, IF ANY, AS DESCRIBED ABOVE.

IN ORDER TO REFLECT AND ACCOUNT FOR ANY ADDITIONAL COSTS FOR THESE RESEARCH AND DEVELOPMENT VEHICLES, VENDOR IS TO CALCULATE THE FOLLOWING:

TAKE THE TOTAL EXTENDED DOLLAR VALUE FOR ITEM #1 ABOVE AND MULTIPLY IT BY .05 (5%). THE RESULTING FIGURE IS TO BE INSERTED UNDER UNIT PRICE AND EXTENSION FOR ITEM #1.1 BELOW.

DESCRIPTION	QUANTITY	UOI	UNIT PRICE	EXTENSION
ITEM NUMBER: 1.10			COMM. C070 53	
RESEARCH AND DEVELOPMENT	1.	EACH	$_____	$_____

RESEARCH & DEVELOPMENT SHALL BE
5% OF THE TOTAL COST OF ITEM # ONE (1)

INSERT THE DOLLAR AMOUNT IN THE UNIT PRICE
AND EXTENSION COLUMNS AT THE RIGHT.

ITEM NUMBER: 2.			COMM. C070 03	
FOUR WHEEL DRIVE (4WD) AMBULANCE OPTION.	50.	EACH	$_____	$_____

CHASSIS SHALL BE AN APPROVED AMBULANCE PACKAGE AND SHALL BE THE SAME MANUFACTURER AND MODEL SERIES AS DESCRIBED IN THE SPECIFICATION WITH ALL NECESSARY OPTIONS FOR 4 WHEEL DRIVE, INCLUDING BUT NOT LIMITED TO A "SHIFT ON THE FLY" TRANSFER CASE. THE 4WD AMBULANCE SHALL COMPLY WITH ALL DIMENSIONS AND PARAMETERS OUTLINED IN THE SPECIFICATION. THE VENDOR SHALL PROVIDE THE MANUFACTURER?S LITERATURE ON THE PROPOSED 4WD CHASSIS WITH THEIR BID.

ITEM NUMBER: 3.			COMM. C070 03	
MEDIUM DUTY AMBULANCE CHASSIS OPTION. CHASSIS SHALL BE A CONVENTIONAL STYLE CAB/CHASSIS AND SHALL BE THE MANUFACTURER'S APPROVED AMBULANCE PACKAGE. GROSS VEHICLE WEIGHT RATING SHALL BE 19,500 LBS MINIMUM.	50.	EACH	$_____	$_____

CURB-TO-CURB TURNING RADIUS SHALL NOT EXCEED 30 FEET. THE BUMPER-TO-BUMPER (VEHICLE CLEARANCE) TURNING RADIUS SHALL NOT EXCEED 31 FEET. ENGINE SHALL BE DIESEL POWERED, EIGHT (8) CYLINDER, CERTIFIED FOR USE WITH #1 AND #2 ULTRA LOW SULFUR DIESEL FUEL AS WELL AS BIODIESEL BLENDS. THE ENGINE SHALL HAVE A MINIMUM HORSEPOWER RATING OF 300 HP @ 2600 RPM AND A MINIMUM TORQUE RATING OF 660 FT-LBS @ 1600 RPM. TRANSMISSION SHALL BE AN ALLISON 1000EVS SERIES OR EQUAL, AUTOMATIC, FIVE (5) SPEED MINIMUM WITH OVERDRIVE, FULL ELECTRONIC CONTROLS AND PARKING PAWL. THE VENDOR SHALL PROVIDE THE MANUFACTURER'S LITERATURE ON THE PROPOSED MEDIUM DUTY CHASSIS WITH THEIR BID.

ITEM NUMBER: 4.			COMM. C070 03	
COMPLETE BOOK AND MANUAL PACKAGE AS DETAILED IN SECTION 13 OF THE ATTACHED SPECIFICATION.	50.	EACH	$_____	$_____

DESCRIPTION	QUANTITY	UOI	UNIT PRICE	EXTENSION
ITEM NUMBER: 5. COMPLETE DIAGNOSTIC EQUIPMENT PACKAGE AS DETAILED IN SECTION 16 OF THE ATTACHED SPECIFICATIONS.	50.	EACH	COMM. C070 03 $_____	$_____
ITEM NUMBER: 6. COMPLETE TRAINING PACKAGE AS DETAILED IN SECTION 17 OF THE ATTACHED SPECIFICATIONS.	50.	EACH	COMM. C070 03 $_____	$_____
ITEM NUMBER: 7. COMPLETE SET OF ALL EXTERIOR MODULE DOORS WITH HINGES. ALL DOORS SHALL BE PAINTED AND "READY TO INSTALL".	50.	EACH	COMM. C070 03 $_____	$_____

TOTAL CLASS OR ZONE AWARD (ITEMS 1.00 THRU 7.00) 01 .....$_____

CASH DISCOUNTS

OFFERS OF CASH DISCOUNTS WILL NOT BE CONSIDERED IN MAKING AN AWARD. PLEASE NOTE BELOW IF YOU OFFER A CASH DISCOUNT AND, IF SO, THE DISCOUNT TERMS.

DISCOUNT
YES ..... NO ..... TERMS ..... % ..... DAYS

TRADE DISCOUNTS

DO YOU OFFER A TRADE DISCOUNT THAT WOULD REDUCE THE TOTAL AMOUNT OF YOUR BID?

YES ( ) NO ( ) PERCENT.....

.....

FIRE DEPARTMENT
CITY OF NEW YORK

SPECIFICATION FOR:
TYPE 1
AMBULANCE

DATED: January 31, 2013

SPECIFICATION PREPARED BY FLEET SERVICES DIVISION

SPECIFICATION SUPERSEDES ANY PREVIOUS SPECIFICATION FOR
THIS TYPE VEHICLE

TABLE OF CONTENTS

1. Intent:

1.1 It is the purpose of this specification to describe a 4 x 2, dual rear wheel, diesel powered, **Type 1 Ambulance.** It shall be a conventional truck cab/chassis with a modular Ambulance body.

1.2 This Ambulance will be used by extensively by the Fire Department City of New York (FDNY) at various locations throughout the City of New York. It will be a front line vehicle and subjected to extensive daily use. It shall have the capability and capacity to carry a full equipment and personnel load in a safe and secure manner. The Ambulance shall be engineered and constructed to operate under all conditions with a minimum amount of downtime.

1.3 The Ambulance shall be manufactured in compliance with the following:

- The specific requirements of this Specification.
- The "Federal Specification for the Star-of-Life Ambulance KKK-A-1822F" (dated August 1, 2007) and applicable amendments/revisions in effect at time of manufacture. This FDNY specification, where applicable, refers to the relevant sections of KKK-A-1822F.
- The most current edition of part 800 of the New York State Emergency Medical Service code and applicable amendments in effect at time of manufacture.
- All State, Federal, and local laws, including but not limited to: Federal Motor Vehicle Safety Standards (FMVSS); New York State Department of Health Regulations (10 NYCRR Part 800), and New York State Motor Vehicle Laws. The Ambulance vendor shall guarantee all Ambulance chassis provided under the specification are the Original Equipment Manufacturers (OEM) most current (newest) model year chassis.
- All Ambulances shall be certified by the final stage manufacturer as being compliant as a "Star-of Life" Ambulance in the year the Ambulance is built. The final stage manufacturer shall certify in writing, each vehicle's compliance with all applicable standards during each production cycle.

Note: In the event of a conflict between the text of this specification and the references cited herein, the text of this specification shall take precedence.

1. Intent (Continued):

1.4 Consistency is a major concern to FDNY. All Ambulances purchased under this contract (including any add-on orders) shall be assembled and mounted to the chassis in a consistent manner. In addition, bolt-on parts used in module construction shall be interchangeable.

1.5 Workmanship shall be in accordance with the highest standards of the Ambulance industry and meet or exceed all applicable standards and regulations that may apply.

1.6 It is not the intent of this specification to cover all details of design and construction. Nothing stated, implied or omitted from this specification shall relieve the prime vendor from providing a finished product of high engineering design and workmanship, fully equipped and capable of performing its intended function.

1.7 It shall be the responsibility of the vendor to mount the module, wire and install all accessories, paint, finish and test the completed Ambulance in accordance with the requirements of this specification.

1.8 The vendor shall be held fully responsible for the design, performance, reliability and satisfactory operational function of the apparatus / vehicle / equipment.

1.9 Vehicles shall be delivered "ready for service". Each vehicle shall have a signed inspection/check off sheet provided with it at the time of delivery. Any deficiencies found during this inspection shall be noted on this sheet and corrected before delivery.

1.10 Upon delivery, the vehicle shall have a valid New York State Department of Motor Vehicles inspection certificate affixed to it.

1.11 "Heavy duty" is defined as the heaviest duty/highest capacity/longest life component made for the vehicle by the manufacturer (OEM).

1.12 Tolerances: Where dimensions and tolerances are stated in this specification, the stated tolerance shall apply. Approximate, or "approx", where it is mentioned in this specification, shall be defined as + / - 5%, and shall be at the discretion and approval of FDNY.

1.13 Where a reference is made such as "**As per KKK 1.1.1 +**", the plus sign (+) shall indicate that the vendor is required to meet the requirements of the relevant section of KKK-A-1822F **plus** the text stated under that particular FDNY line item number in this specification.

1. Intent (Continued):

1.14 Sheet metal, self-tapping wood or metal screws, nails, rivets, and staples are not acceptable in/on the Ambulance assembly, without prior written approval by FDNY. Nutserts™ or nylon threading inserts shall be used wherever possible. Tapping plates shall be used where specified. Attaching hardware shall be approved by FDNY.

1.15 All vendor installed wiring, accessories, equipment and options subject to FDNY approval with regard to equipment selection, layout, placement / location and final installation. **FDNY shall reserve the right to determine any electrical installations which require constant duty relays.**

1.16 "Street side", as mentioned in this specification shall be denoted as the left side of the vehicle, and "curb side" shall be denoted as the right side of the vehicle.

1.17 The terms "contractor", "successful bidder", "prime vendor", and "vendor" as stated in this specification shall be deemed as interchangeable terms which refer to the same business or entity.

1.18 If a component or option, required by the specification or original equipment manufacturer, is only available as part of an "option package" it must still be supplied.

1.19 If a component, option, system or feature is stated in this specification and is not available from the manufacturer, appropriate written documentation shall be provided by the vendor to FDNY stating that the specified component, option or system is not available through that manufacturer. FDNY shall approve any proposed substitutes to these components or systems.

1.20 FDNY shall determine which areas on the apparatus require padding to prevent possible injury to personnel.

1.21 FDNY shall reserve the right to adopt federal OSHA requirements for the vehicle, or at least those relevant sections of these regulations that may protect the interests of the Department.

1.22 All efforts shall be made to save vehicle weight. Further details shall be discussed at the preconstruction conference. FDNY shall direct and approve the material type used in a given area.

2. General Requirements:

2.1 New Technology Qualification: A "New Technology" is defined as an item or method of manufacture that has come into the industry within the last three calendar years. While the main intention of FDNY is to purchase reliable, field proven products rather than experimental or prototype items, every consideration shall be given to the evaluation of new technologies. To be considered “proven technology”, FDNY requires that the item/system proposed have been utilized on the vendor’s product line and that the vendor submit with their bid, details of the length of time that the item/system has been in use, the number of vehicles that the item/system has been installed on and a reference list of customers.

Note: If a vendor submits a New Technology that fails to meet the “time in use" requirements, three (3) years minimum, detailed in this specification, then the vendor shall supply the following information with the bid submission:

1. A detailed description of the item or method of New Technology, as well as all engineering data to support the "equal to” requirement.

2. A list of six (6) large metropolitan fleets that have used the New Technology on Type 1 Ambulances for a minimum period of one year. The list shall include the following: a contact person, address, phone number, Ambulance call volume, and the vehicle “in service” dates.

3. Sample parts shall be submitted to DCAS/FDNY for evaluation upon request:

   A. All relevant KKK-A-1822F test data on the New Technology shall include but not be limited to the following: test dates and results, photos, and graphs. The vendor shall furnish a contact person at the test laboratory.

   B. Acceptance of any or all New Technologies shall be at the sole discretion of DCAS/FDNY. Vendors should be aware that all items and materials that have not been used successfully in the industry for a three-year period shall be subject to the New Technology qualification.

2.2 In addition to the above, FDNY reserves the right to invoke the “experimental technology” clause as defined by DCAS in the bid package accompanying this specification.

2. General Requirements (Continued):

2.3 Alternative Construction Methods: The construction methods described in this specification are based on Ambulance designs that have provided FDNY with longevity and ease of maintenance/repair. Alternative construction methods **may** be acceptable. If the vendor is proposing an alternative construction method that differs from that described in this specification, then the following procedure shall be followed:

1) The vendor shall provide a written line-by-line comparison between the methods described in this specification and what the vendor is proposing. The comparison shall use the FDNY section number from this specification for easy cross referencing.

2) The comparison shall clearly demonstrate how the vendor's alternative design meets (or exceeds) **each** section that differs from the specification. All sections which differ from the specification shall be shown in the comparison. Vendor construction proposals which are incomplete are unacceptable. The requirements for the comparison shall include but not be limited to: engineering drawings and reports, safety and durability testing, material samples, demonstration/sample vehicles, and anything deemed necessary by FDNY and/or DCAS to make an effective comparison. A full report depicting the two methods shall be presented for FDNY and/or DCAS review.

2.4 Thread Sealant**:** As deemed necessary by FDNY, screws and bolts shall be pretreated with anaerobic thread sealant and sized according to the calculated loads and stresses. Vibratite™ coated screws shall also be acceptable with FDNY approval.

2.5 Electrical Connector Sealer: All vendor installed electrical connections located under the hood, exposed to the elements or as directed by FDNY shall be treated with a type of insulating sealer to prevent electrolytic action and corrosion.

2.6 Welding: All welds shall be in accordance with American Welding Society Standard D1.1, and done by certified welders. All welding shall be subject to physical inspection and/or laboratory testing at the discretion of FDNY.

2.7 Access Panels: All service access panels shall be well secured, of maximum size, and located to facilitate access to electrical / mechanical connections. All service access panels shall be secured with non-keyed, recessed, security latches made by Spanner™.

2.8 Access to electrical power distribution panels/terminals, which include the circuit breaker panels, shall be through an external lockable compartment. This compartment shall be weather tight and properly vented.

2. General Requirements (Continued):

2.9 Service Loops: All final stage/vendor installed or modified components (including, but not limited to, hose, cable, and tube connected devices) shall be heavy duty and have at least a six inch (6") service loop of cable, tubing or hose. Hoses and tubes, beginning and terminating on the same panel, shall be installed with at least a two-inch (2") service loop to facilitate repair and replacement.

2.10 Grommets and Sealing: All hose, wire cable, and tubing passing through panels or any metal shall have a heavy-duty rubber grommet and/or edge guard and sealed weather tight. All hose, wire, cables, and tubing passing through the patient compartment, bulkhead, or the vehicle fire-wall shall be sealed with the appropriate form of fire resistive sealant that shall prevent dust or moisture penetration.

2.11 All wiring, hoses and fuel lines passing under the cab shall have a protective shield. All shield designs shall be approved by FDNY before construction.

2.12 The use of electrical/friction tape on connections/splices or for wrapping wires is not acceptable. All wire terminals, terminations connectors, butts or splices shall be weather tight, protected by **self sealing** heat shrink tubing or "liquid electrical tape", where heat shrink is not usable. All wiring shall be enclosed in protective loom, and this loom shall be protected by chafe guard where necessary. Wherever possible module electrical connectors shall be "Deutsch, Gold Terminal, Waterproof Connectors" All terminals and butt connectors ends shall be double-crimped with the proper double-crimping tool and then soldered and covered with **self sealing** heat shrink tubing. Wherever possible wiring shall be continuous end to end.

2.13 ECK Anti Corrosion Spray™ (available from Van Nay LLC, 847-931-7899) shall be used on all contact areas of dissimilar metals to prevent oxidation and corrosion. FDNY reserves the right to direct which areas require this treatment.

2.14 Operation and Performance: As per KKK 3.4.1+

- The vehicle shall be capable of performing under environmental conditions and operating conditions common to New York City. FDNY Ambulances run continuously throughout the shift. Ambulances may patrol at slow speeds or idle between calls with cab and patient environmental systems operating at their highest settings.

2.15 Vehicle Lubrication: As per KKK 3.6.2

2.16 Recovered Materials: As per KKK 3.3

2.17 Temperature Conditions: As per KKK 3.4.2

2. General Requirements (Continued):

2.18 Exterior: As per KKK 3.4.2.1

2.19 Interior: As per KKK 3.4.2.2

2.20 Noise and Sound Level Limits Exterior: As per KKK 3.4.3+

- All applicable City of New York noise regulations.

2.21 Intended Use Of Specification: As per KKK 6.1

2.22 Federal Specification Coverage: As per KKK 6.1.1

2.23 Definition Of Government Purchaser: As per KKK 6.1.3

2.24 Price Changes: Refer to the DCAS bid package accompanying this specification for detailed information on price changes.

3. Chassis and Cab:

3.1 Chassis Type: Type 1 Ambulance, as per KKK 3.1.2+

- Chassis shall be OEM Manufacturer's Certified/Designated Ambulance Package, "Super-Cab" type, KKK approved Ambulance Chassis:

3.2 Cab-Body Provisions: As per KKK 3.9.2

3.3 Controls And Operating Mechanism: As per KKK 3.9.4

3.4 Driver's Compartment, Cab-Body Structure: As per KKK 3.9.1

3.5 Vehicle Physical Dimensional Requirements: As per KKK 3.4.10

3.6 Wheel base of chassis: 186" approx.

3.7 Cab to Axle (CA) Type 1: As per KKK 3.5.6+

- 84" approx.

3.8 Overall length of chassis: 272" approx

3.9 Overall Ambulance width: 96.5" maximum. This dimension shall be exclusive of all external hardware, rub rails and mirrors.

3.10 Overall height of Ambulance (loaded): 110" maximum, excluding 2-way radio antenna(s)

3.11 Ground clearance: 8" minimum

3.12 Length: 24.25' maximum. Note: Due to the various chassis and body combinations available, if an optional chassis is chosen, the overall length of the vehicle may change. This shall be further discussed at the preconstruction conference.

3.13 Turning Radius: As per KKK 3.4.10.5

3.14 Curb weight: As per KKK 3.5.1

3.15 Payload Capacities: As per KKK 3.5.2 +

- Payload: 8,549 lbs, minimum

3. Chassis and Cab (Continued):

3.16 Gross Vehicle Weight Rating (GVWR): As per KKK 3.5.3 +

- GVWR: 16,500 lbs, minimum
- Front GAWR: 7,000 lbs, minimum
- Rear GAWR: 12,000 lbs, minimum

3.17 Angle of Approach, Ramp Breakover, and Departure: As per KKK 3.4.10.4 +

- Deviation from KKK may be necessary to accommodate FDNY rear step requirements.

3.18 Weight Distribution: As per KKK 3.5.4

3.19 Ratings: As per KKK 3.5.5

3.20 Chassis Frame: As per KKK 3.6.1

3.21 Front Tow Hooks: As approved by FDNY.

3.22 Suspension: As per KKK 3.6.5.6+

- The rear suspension shall be spring or air suspension. The suspension shall minimize modifications to the OEM chassis in terms of the frame, the suspension mounting brackets and the exhaust.

- All conversion components shall bolt to the OEM chassis without welding. If the proposed system is air suspension it shall connect to the OEM chassis through the OEM front spring brackets and the lateral axle control shall be of a design that minimizes point-load stress to the OEM frame members.

- Trailing beams shall be forged spring beams that connect to the OEM spring bracket at the frame, then connect to the top of the axle on the original spring seat before dropping behind the axle in a "Z" shape and extending to provide a mounting bracket for the air spring.

- The connection shall provide optimum drive shaft angles to minimize drive line vibration. Force sensitive shock absorbers shall be provided and custom tuned for optimum ride comfort.

- The suspension shall provide a minimum of 3" of jounce travel and 3" of rebound travel. It shall have dual height leveling valves to maintain correct body height and side-to-side height.

3. Chassis and Cab (Continued):

3.22 Suspension: As per KKK 3.6.5.6+ (Continued):

- There shall be a "dump" feature to lower the vehicle height automatically when the street side rear access door is opened. The load height shall automatically return to normal ride height when the door is closed.

- The dump feature shall have a high speed control to minimize response time. There shall be a low pressure warning system with and audible warning device if the air system pressure falls below minimal operational pressure.

- This system shall have the capability to check the left and right air springs individually. The vendor shall provide complete shop drawings and documentation for all suspension designs being proposed. FDNY shall approve the final suspension design.

3.23 Spring Stops: As per KKK 3.6.5.7

3.24 Shock Absorbers: As per KKK 3.6.5.8

3.25 Steering: As per KKK 3.6.6+

- OEM Tilt Steering Wheel with telescoping feature if available OEM.

3.26 Engine Hood: As per KKK 3.9.8 +

- OEM hood shall be vented to provide proper engine cooling. Further details shall be discussed at the preconstruction conference.

3.27 Cab Floor: OEM carpet and matting shall be removed and the cab floor shall be coated with **black** Linex™, or equal with UV protection. All OEM wiring shall be run through a channel for protection against damage. Texture and coverage area shall be approved by FDNY.

3.28 Brake System, Service, and Parking: As per KKK 3.6.5.4 +

- The vehicle shall have a Telma™ brake retarder system and shall be the latest approved model for Ambulance service. It shall be properly sized for the proposed chassis. Written certification from the brake retarder manufacturer shall be provided to FDNY.

3.29 Interior colors: OEM color charts/samples shall be provided at the preconstruction conference for FDNY review and approval.

3. Chassis and Cab (Continued):

3.30 Cab Compartment Driver And Passenger Seat: As per KKK 3.9.3+

The cab shall be furnished with two (2) individual high-back driver and passenger bucket vinyl seats with lumbar adjustment, if available. (OEM preferred, if available. If not, FDNY reserves the right to approve proposed substitutes). There shall be armrests provided at both the driver and assistant's seating areas. The seats shall be covered with OEM heavy duty artificial leather or heavy duty vinyl non-absorbent material and meet FMVSS requirements. Seats shall be fully adjustable, forward and backward. If OEM seats are not available in vinyl then the vendor shall replace the OEM material with forty (40) ounce heavy duty commercial vinyl. The color shall match the interior. Component selection, location and final installation of all components subject to FDNY approval.

3.31 Air Bags: Driver and Passenger air bags, and side curtain air bags, if available OEM

3.32 Windshield Wipers And Washers: As per KKK 3.7.4 +

- With OEM Intermittent Wiper Option.

3.33 Horns: As per KKK 3.7.5

3.34 OEM Radio: AM/FM Stereo/Clock.

3.35 Cup Holders: Two mounted in the center console area, right and left side. Cup holders shall not interfere with the layout of the console and related equipment. Location and type shall be approved by FDNY

3.36 Map Pockets: OEM or dealer installed, shall be mounted on each door and shall accommodate an 8 1/2" X 14" current in use FDNY ACR book, minimum

3.37 Air Conditioning: OEM system shall be provided for the cab.

3.38 Power Windows: OEM equipment.

3.39 Power Door Locks: OEM equipment.

3.40 Rear Cab Window: Sliding type, design approved by FDNY.

3.41 Interior power point outlets: 12V "cigarette lighter" style. Six units shall be installed as directed by FDNY.

3.42 Daytime Running Lights: OEM equipment.

3. Chassis and Cab (Continued):

3.43 Running Boards: OEM Running Boards, with non-slip top surface. These shall be installed and supported as recommended by the OEM. **If an OEM running board is not available, the vendor shall propose an alternate unit, which shall be subject to FDNY approval**. **NOTE: Tubular type running boards shall not be acceptable. Component selection and installation subject to FDNY approval.**

3.44 Outside Rearview Mirrors**:** As per KKK 3.9.5 +

- OEM mirrors, as approved by FDNY at the preconstruction conference, shall be provided. The vendor shall provide details on the latest optional OEM mirrors to FDNY. FDNY shall reserve the right to approve any mirror type or design proposed by the vendor. Further details shall be discussed at the preconstruction conference.

3.45 Mudflaps: As per KKK 3.9.7.2 +

- **Black** mud flaps shall have "FDNY" lettering. Type, location and final installation shall be directed by FDNY

4. Engine:

4.1 Power Unit, Engine: As per KKK 3.6.3+

Engine shall be 6.7L, minimum, Direct Injection, turbocharged, diesel powered, 300 HP min @ 2,800 RPM – Torque: 660 ft lbs min @ 1,600 RPM. **Engine shall have the capability of running on the following fuels: #1 ultra low sulfur diesel fuel, #2 ultra low sulfur diesel fuel, and bio-diesel blends. Written certification shall be supplied by the OEM for all approved fuels.**

4.2 Power Unit: As per KKK 3.6.3.1

4.3 Power Unit Components: As per KKK 3.6.4

4.4 Air Filter: As per KKK 3.6.4.2+

- Dry type air cleaner with restriction indicator.

4.5 Oil Filter: As per KKK 3.6.4.1

4.6 Cooling System: As per KKK 3.6.4.5+

- -40 degree F antifreeze protection.

4.7 Coolant hoses: Shall be Dupont Nomex™ if available. If not, FDNY shall approve any proposed substitute(s)

4.8 Hose Clamps: Shall be constant tension spring type. FDNY shall direct which hoses that require this type of clamp.

4.9 Engine block heater: 110V, covered receptacle securely mounted in an easily accessible and protected location – wiring securely mounted, and protected from chafing.

4.10 Starter: Heavy duty equipment with OEM starter lock out protection.

4.11 Engine High-Idle Speed Control: As per KKK 3.7.6.1 +

- Vehicle shall be equipped with a 'secure idle' system that allows the key to be removed with the engine running and the transmission in Park. If the vehicle is placed into gear, the engine shall shut down. This system shall be designed and integrated into the vehicle's electronic system by the Ambulance manufacturer.

- Fast idle system: OEM equipment. Electronic engine speed-up control shall respond to low voltage readings.

4. Engine (Continued):

4.12 Engine hour meter: Hobbs™ # 98312, (217-753-7798) mounted on dash beside the steering column as directed by FDNY. This hour meter shall be in addition to any OEM hour meter(s) provided.

4.13 Speed: As per KKK 3.4.5

4.14 Acceleration: As per KKK 3.4.6

4.15 Gradeability: As per KKK 3.4.7

4.16 Gradaeability at Speed: As per KKK 3.4.7.1

4.17 Minimum Low Speed Gradeability: As per KKK 3.4.7.2

4.18 Engine Low Temperature Starting: As per KKK 3.6.3.2

4.19 Vehicle Performance: As per KKK 3.4.4+

- Performance shall be evaluated under common New York City area environmental and road conditions.

4.20 Exhaust System: As per KKK 3.6.4.6

4.21 Air Pollution Control: As per KKK 3.6.4.3 +

- Diesel Exhaust Fluid (DEF) tank location shall not impinge upon compartment space. DEF fill shall be compatible with magnetic nozzle systems currently in use by the City of New York. Location shall be approved by FDNY and further details discussed at the preconstruction conference. Tank shall be full on final delivery.

- The exhaust pipe(s) shall be modified as/if required by Nederman™ (800-575-0609) system installation.

- The tail pipe shall exhaust out the right side of the vehicle in back of the rear wheels. The Ambulance exhaust system shall accept the Nederman™ Vehicle Exhaust System that FDNY has at its Stations. Nederman™ system shall be installed on each vehicle purchased under this contract.

4. Engine (Continued):

4.21 Air Pollution Control: As per KKK 3.6.4.3 +

- The vendor shall install all vehicle components required with the Nederman™ system. This shall include, but not be limited to a magnet mounted 22 1/2" from the center of the tail pipe to the center of the magnet. A Nederman™ transmitter shall be installed in the cab, wired to send disconnect signal when ignition is turned on.

- Final design and workmanship of the Nederman system shall be approved by FDNY

4.22 Fuel System: As per KKK 3.6.4.4+

- 40 gallon fuel tank capacity, minimum. Tank shall be full at final delivery.

- Fuel filler tubes shall be equipped with flap type doors and Medeco™ locks. Fuel caps shall be attached to the vehicle by a lanyard. The vendor shall design a system to prevent fuel from spilling onto paint during refueling. Modifications of the diesel tank, gauge sender, or fuel cap will not be accepted.

- A Cast Aluminum protective guard shall be installed around the fuel fill location. The fuel fill shall have a locking door with a fleet mastered key lock. The fuel cap shall be attached to the vehicle by an OEM lanyard.

- The fuel filler port shall be properly labeled. A permanently attached fuel filling instruction sign shall be placed above each fuel filler inlet. Signs shall be engraved plastic or metal with one inch (1") high **white** letters on a **green** background and state, "DIESEL FUEL ONLY," and the wording "STOP ENGINE: NO SMOKING DURING REFUELING."

- Fuel Fill Splash Plates: As per KKK 3.9.7.3

- Fuel Range: As per KKK 3.4.8

5. Transmission/Driveline/Rear Axle:

5.1 Automatic Transmission: As per KKK 3.6.5.2 +

- Transmission shall be a six (6) speed with electronic controls.

- Auxiliary External Transmission Oil Cooler: OEM if available, if not: auxiliary cooler rated capacity for extreme heavy duty service as recommended by transmission manufacturer – Installed as per manufacturers instructions – Use of hose shall be directed and approved by FDNY – Hose used shall be oil rated and securely mounted with rubber covered clamps and protected by an anti spray/chafe covering entire length (no split plastic) – Edge guard/grommets shall be used where passing through or over metal – Hose fittings shall be SAE flare type, securely crimped on the hose – push on type fittings are unacceptable.

5.2 Drive Train Components: As per KKK 3.6.5.1

5.3 Driveline: As per KKK 3.6.5.3

5.4 Special Traction (Rear End) Differential: As per KKK 3.6.5.5 +

- OEM traction control system shall be provided.

6. Tires and Wheels:

6.1 Tires: As per KKK 3.6.8 +

- Tires and tire capacities shall meet or exceed all applicable Federal, State, and City regulations and standards.
- Tires shall meet or exceed the load requirements of GVWR and chassis/body.
- All tires shall be non-directional.
- Tires shall be all season rated, 225/70R19.5G, with steel rims. The tires shall provide both maximum traction in all weather conditions and maximum longevity/tread wear.
- The vendor shall provide tire choices at the preconstruction conference for FDNY review and approval.
- The vendor shall also provide a list of the most current OEM replacement tires prior to award and for each subsequent delivery year.

6.2 Wheels: As per KKK 3.6.7 +

- Wheels shall meet or exceed the load requirements of GVWR and chassis/body.
- All lugs shall be equipped with Wheel Check™ (888-829-1556), or equal, **orange** wheel nut indicators with a minimum temperature rating of 450°F.

6.3 Wheel Tire Balancing: As per KKK 3.6.10

6.4 Tire Chain Clearance: As per KKK 3.6.9

7. Body and Special Equipment:

7.1 Design: As per KKK 3.1.1 +

- The City of New York shall only accept Ambulance modules constructed from aluminum. The vendor may only use steel construction to connect the chassis to the body module.

7.2 Configuration of Patient Compartment: As per KKK 3.1.5 +

- The vendor shall provide a detailed full dimensional drawing of interior elevations and floor plan which complies with New York State NYCRR, Part 800 prior to award. The vendor shall allow for space between stretcher (Ferno™ Model 35XEF-NY or equal) and the squad bench to accommodate the Ferno™ Model 40-OS, or equal, Stair Chair, with patient, without requiring removal of stretcher from either rear or side doors.

7.3 Vehicle, Ambulance Components, Equipment and Accessories: As per KKK 3.2

7.4 Medical Devices: As per KKK 3.2.1

7.5 Fording: As per KKK 3.4.9

7.6 Floor Height: As per KKK 3.4.10.6

7. Body and Special Equipment (Continued):

7.7 Bumpers And Steps: As per KKK 3.9.6+

- Rear Step: The rear of the vehicle shall be equipped with an energy-absorbing step bumper assembly. The step frame shall be heavy duty steel that is both electro-coated and powder coated for corrosion resistance. The outer step corners shall be covered with .125" bright aluminum diamond plate caps. The stepping surface shall be constructed of aluminum Grip Strut™ to provide for non-slip footing. The step shall be mounted to the chassis frame with a pair of energy absorbing Fitzpatrick™ (800-545-1102) energy absorbing pistons with 4" travel designed to absorb a 5 MPH impact from either a direct or an oblique angle. The vendor shall design the mounting of the step with provisions that allow the step to be lowered, should this become necessary in the future. Further details shall be discussed at the preconstruction meeting. The ground clearance from the top of the step to the ground shall be no more than 16"; this dimension shall have priority over other criterion.

- Rear Kick Plate: A full width kick plate, height shall be approved by FDNY, shall be located on the rear of the module body, above the rear step. The kick plate shall incorporate a recess on the right side in order to accommodate the ™ 110 volt A/C "Auto Eject". Additional support shall be added as directed by FDNY where the stretcher wheels contact the bumper/rear kick plate area. Further details shall be discussed at the preconstruction conference.

- Rear Recovery Hooks: Two (2) shall be provided as directed by FDNY.

- Dock Bumpers: The vendor shall install Rowe Corp™ #67-1041, or equal, dock bumpers, or equal, on the face of the rear bumper. Final bumper mounting, design, construction, and installation shall be subject to prior approval by the FDNY.

7.8 Fenders: As per KKK 3.9.7.1+

- Install heavy-duty rubber fender extension(s) above the dual rear tires. The fenders shall be constructed of rubber, less than three inches (3") wide, reinforced and securely mounted with Stainless Steel bolts and hardware. Where bolts go through the body panels, non-metallic insulators shall be used.

7. Body and Special Equipment (Continued):

7.9 Cab Connecting Bellows For Type 1 Vehicle - As per KKK 3.9.9+

- Plastic Dip Moldings Inc™ (800-262-2111) PVC bellows shall be secured between the cab and body in such a manner that it can be easily replaced without moving the module or removing the cab rear window. Bellows attachment to module shall be by a .188" aluminum plate with a .125" aluminum angled return that conforms to the module opening. Plate shall be fastened through the angled return into the 2" X 2" aluminum tubing that frames the window opening in the Module. Screws through the module face are unacceptable. Bellows shall attach to cab by means of a .063" aluminum frame, formed to match rear cab contour. Bellows attachment shall utilize a quick clamp, easily removed for replacement. It shall not be necessary to remove frame to change bellows.

- OEM sliding window shall be used to close bellows at back of cab. Aftermarket windows or aluminum plates are not acceptable.

- The vendor shall provide detailed description on how to remove and replace the bellows and include this information in the operation and servicing manuals.

7. Body and Special Equipment (Continued):

7.10 Body Accommodations: As per KKK 3.10.1+

- Floor plan "ALS" with a provision for a Ferno™ Model 35XEF-NY rolling stretcher with custom safety hook.

- Cot Mount**:** All cot mounts shall be fastened in accordance with Ferno Washington™ mounting instructions and shall be tested by the vendor to meet AMD standards as dictated by KKK-A-1822F. All mounts shall be the same in all vehicles provided on this contract and any add-ons to this contract. The mounting brackets shall be bolted through the floor and side wall and fastened to a .500" thick plate that shall be welded to the sub structural members. No structural member may be modified or compromised by the installation of the cot mount mounting brackets. All cot mount hardware shall be attached with appropriate size and grade 8 nuts and bolts. Tapping plates are not acceptable. All bolts shall be installed with anti-seize compound to prevent corrosion .Bolts / nuts shall not touch or be too close to any component under the module that would make accessing the hardware difficult. Spacers shall be used at locations where bolts pass through the side wall to prevent deformation of the side wall when hardware is tightened. (The cot mount shall be installed so the cot mattress is located 12" from the rear doors). The location of the floor and side mounts shall be located using a jig to insure correct positional relationship between both cot mounting brackets. In addition, the side mount location shall provide the ability for adjusting the stretcher bar in the forward and backward position. The following cot mounts and accessories shall be installed:

7.11 Body Accommodations: As per KKK 3.10.1+ (Continued):

- One (1) Ferno™ #175-1FDNY, or equal.
- Bracket for FW Cot Style: 35XEF-NY, or equal.
- Customized lock bar, Ferno™ #090-5860

7.12 Cab/Patient Compartment Access Window: As per KKK 3.10.2

7. Body and Special Equipment (Continued):

7.13 Emergency Medical Technician (EMT) Seating**:** As per KKK 3.10.3+

- The EMT seat shall be similar in design to the driver's seat. The seat shall not obstruct the access panels and shall be equipped with a child restraint seat. All seat designs shall be approved by the FDNY. A boxed seat base shall fit between the main cabinet wall and the right front compartment (at the head of the cot). The base shall be fabricated from .250" thick aluminum. The seat shall be covered in heavy-duty vinyl with an adjustable track. There shall be sufficient space within the seat base to house the patient area heater. Vinyl upholstery used shall match remainder of upholstered parts in patient area. The seat shall contain an integral restraint system that is in compliance with all applicable standards and regulations. Final component selection, layout, and final installation shall be approved by FDNY.

7.14 Patient Compartment Interior Dimensional Parameters: As per KKK 3.10.4+

- The interior height of the patient compartment shall be sixty-six inches (66"), minimum.

7.15 Body, General Construction: As per KKK 3.10.5+

- Wall and Roof Skin supports: The exterior wall and roof skins shall be supported on the inside by 2" square tubing strategically located at the load bearing points of the module body. Tube wall thickness shall be .125" minimum.

- Ceiling Tubes: The ceiling tubes shall be spaced on 12" centers, minimum, for adequate load support. In addition to the vertical ribs on the street side and curb side wall, a horizontal rib shall be installed. The rib shall be located at approximately the belt line of the body. The rib shall provide additional protection in the event of a side body impact.

- Gusset Enhancement: Vendor shall outline the use of gussets to strengthen the structural integrity of the patient compartments and supply detailed drawings prior to award. Gussets shall be utilized at the welded joints of all door and compartment openings, all body corners, hinge stress locations, door hold-open anchorage's, all floor cross-members, wheel wells, and where required in roof and wall construction, minimum. Gusset construction, installation and location subject to FDNY approval.

7. Body and Special Equipment (Continued):

7.15 Body, General Construction: As per KKK 3.10.5+ (Continued):

- Exterior Skin: Ultimate tensile strength of 38,000 PSI (5052-H34 alloy), minimum. The minimum skin thickness shall be as follows:
  Side, Front and Rear Walls: .125"
  Ceiling and Floor Panels: .125"

- All windows in the patient area shall be glazed in accordance with FMVSS. The windows shall be encased in extruded aluminum frames. Rubber gasket, RV style windows are not acceptable. The windows shall be electrically activated "privacy" type. Dark tint laminates or surface films are not acceptable. The latch on the sliding side door window shall be mounted at the trailing end, rather than the center of the window. The following areas in the patient compartment shall have windows:

  - Side Door: 16" x 16", sliding, screened, opening type.
  - Rear Doors: 16" x 16", fixed windows, non-opening type.
  - Side Body Window: None shall be provided.

- Skin to Support Attachment: All body skin shall be attached to vertical structural supports with 3M™ VHB tape as described in the insulation section of the specification. In addition, the skin shall be welded to all horizontal channel members, including the upper frame members and lower crash rails. The skin shall be welded to the vertical corner extrusions. The result of the attachment technique shall provide welding application to the entire perimeter of the body skin and a taped/insulating application to interior surfaces of all walls. The vendor shall not use liquid and/or caulk type adhesives or rivets to attach the body skin.

- Structural Integrity Verification: To ensure structural integrity of the above specified module construction techniques, the body shall be subjected to dynamic testing. That testing shall, at a minimum, include integrity testing and certification that the body will meet ECE R29, SAE J2420 and SAE J2422 standards, and any other applicable standards and regulations that apply to this type of vehicle. The written criteria for these tests and all other testing done by the bidder shall be supplied prior to the award.

- Tread Plate: Unless otherwise stated, the tread plate trim used in the construction process of the vehicle shall be a minimum of .125" thick and shall be brightly polished. The material shall possess a minimum strength of #3003 alloy. The vendor shall attach all trim with screws to allow for easy replacement or repair. The tread plate shall be provided and installed at the following locations:

7. Body and Special Equipment (Continued):

7.15 Body, General Construction: As per KKK 3.10.5+ (Continued):

- Door Panel Covers: Full protective covers shall line the inside of all exterior compartment doors and side and rear doors. The liners shall fit flush with the inner edge of the door panel eliminating rough material edges from sight. The panel shall be made of polished aluminum diamond tread plate. All covers shall be secured to the door by 10-24 Nutserts™.

- Corner Guards: 12" high radius guards shall be installed at all body corners, both front and rear.

- Conspicuity Tape: 2" **red** and **white** 3M ™ Diamond Grade Conspicuity Tape shall be installed on all exterior compartment doors and the side and rear entrance doors as well as directed by FDNY. Placement shall match existing FDNY vehicles.

- Install 1" **white** Scotchlite™ strips on the upper interior edges of the cab doors.

- All reflectors shall be screw-on type. Locations shall be approved by FDNY.

- Drip Rails: Aluminum drip rails shall be mounted above all exterior compartments with automotive molding tape.

7.16 Ambulance Body Structure: As per KKK 3.10.6+

- Stone Guards: Stainless Steel stone guards shall be located on the module body front, inboard of the lower corner guards.

- Install a rub rail two inches (2") high, one-piece, with tapered ends. Mounted at bottom of the module body side, forward and rear of the wheel well. The Rub rails shall be constructed from rubber for maximum impact protection. In addition, a two-inch (2") rubber molding shall be installed on the module body as directed by FDNY. The molding shall be identical to the aforementioned rub rails.

7. Body and Special Equipment (Continued):

7.16 Ambulance Body Structure: As per KKK 3.10.6 + (Continued):

The following is an outline of the current in use FDNY design. It shall be used as a guideline. Only similar designs and construction shall be considered as equal.

- The body structure shall be capable of supporting the loaded weight of the Ambulance in the unlikely event of a rollover. In addition, the structure shall function to enhance patient and attendant safety in case of a collision. The module structure shall include structural supports in all horizontal and vertical corners. These supports shall be aluminum extrusions with two tubular channels. The shape of the extrusion shall provide external surfaces at right angles, comprising flat surfaces to which adjoining structural ribs may be welded. The FDNY requires a continuous gusset be extruded into the corner posts. Corner posts that are part of the exterior body-skin material (e.g. rolled corner posts) shall not be acceptable. The extrusions shall have a tensile strength of 45,000 PSI (6061-T6), minimum. All horizontal roof-to-wall extrusions shall have the same structure and include an extruded drip rail. No seams shall be apparent between the drip rail and the corner extrusion.

- Mounting / Tapping plates: Any specified ceiling hardware, including lights, shall be attached to .125" thick aluminum tapping plates that are welded to the module roof structural members. Hardware randomly attached to roof ribs or ceiling panels shall be unacceptable.

- Ceiling Grab Rail: The grab rail shall be 1.25" diameter Stainless Steel tubing. Rail shall be padded and include rounded safety corners and have integral welded stanchions for attachment to the ceiling. It shall be eight feet (8') long and run down the centerline of the patient area. Final location and construction shall be approved by FDNY.

7. Body and Special Equipment (Continued):

7.17 Body Mounting: As per KKK 3.10.7+

- Body mounting engineering plans shall be submitted prior to award. All prototype designs subject to FDNY approval. The vendor's module mounting methods shall not void any OEM warranty. Modular substructure shall be constructed to allow fastening to OEM chassis without deformation for the FDNY service life of the modular structure.

- The modular body shall be designed to properly distribute its weight load on the vehicle chassis. Vendor shall supply a detailed weight distribution diagram showing loaded and unloaded weight loading, prior to award.

- The module mounting system shall provide the best available module to body attachment and a quiet ride in the patient area. The module sill shall be attached to the chassis rails at a minimum of ten (10) locations, (six (6) forward of rear axle and four (4) aft of rear axle) through the use of outriggers. The body structure shall incorporate a 1" thick sill plate that is attached to these outriggers. The steel mounting platforms at the tie down locations shall be a minimum of .375" thick with .250" steel plate continuous welded gussets. These platforms shall provide an isolated mount to the chassis. Attachment of each platform to the chassis rail shall consist of a minimum of three .625" Grade 8 bolts. The body shall be mounted to the platform at all ten (10) locations with .750" Grade 8 bolts, grade 8 flat washers and aviation type locking nuts. OEM frame rail holes shall be utilized as much as possible. **Welding or cutting to/on the chassis rails or web area is unacceptable. Any non-OEM holes drilled/made in the frame rails shall be made in strict accordance with OEM "Body Builders Manual" and/or applicable documentation/guidelines published by the OEM.**

- Vendor shall submit body mounting engineering plans and/or a sample mounting platform prior to award. The mounting method shall not void any OEM warranty or cause any deformation of the vehicle chassis.

7. Body and Special Equipment (Continued):

7.18 Doors: As per KKK 3.10.8+

- Rear patient loading door opening shall have a minimum height of 56" and a minimum width of 45". Both inside and outside door handles shall be installed on the curbside rear door. The street side rear door shall be operable from the inside only. All doors and frames shall have gussets at the welded joints.

- Modular Door Design: The doors shall be designed and fabricated as follows:

    - Outer Door Skin: The outer face of the door and the door edges shall be formed from a single sheet of metal. All doors shall mount flush with the body side. The outer skin shall be .125" thick and shall have a minimum ultimate tensile strength of 38,000 PSI (5052H34 alloy). All door skins welded every six (6") inches to the inner door frame using a one and one half-inch (1 1/2") long bead, minimum. All corners welded a minimum of two inches (2") in each direction.

    - Inner Door Reinforcement: The doors shall include an internal extrusion for added reinforcement. The extrusions shall extend around the entire inner perimeter of the door skin. In addition to the extrusions reinforcing each outer door pan, the extrusions themselves shall be reinforced through a dual joining method. First, each mitered corner shall be fitted with a one-way type key that prevents the corner from pulling apart. Secondly, where the frame corners join, each corner shall be welded to prevent any separation. Threaded ALA1-10-24-225 AVK Brand Nutserts™, or equal, shall be inserted around the perimeter of the door frame to attach the interior door liners. In addition, each access and compartment door shall contain additional reinforcement as follows:

        - Rear Access Doors:

            - Two (2) tubular cross members, 2" X 3" X .250" thick, on sides
            - One (1) tubular cross member, 2" X 3" X .50" thick at door hold-open area
            - One (1) vertical tubular member, 2" X 3" X .250" thick
            - "Hold opens" secured to four (4) .125" spacer plates welded to the above tubes
            - One (1) 2" X 3" X .125" tubular gusset at the hinge side corners of each door.
            - One tubular assembly, 2" X 3" X .250" thick, on the other side of each door
            - Two (2) .125" plate gussets at the outboard corners of each door.
            - One (1) tapping plate .50" thick machined to match the cutout of the door handle. Door handle fasteners shall be tapped into the plate for easy removal.

7. Body and Special Equipment (Continued):

7.18 Doors: As per KKK 3.10.8+ (Continued):

- Side access door:

  - Three (3) tubular cross members, 2" X 3" X .250" thick sides, with .250" thick tapping surface.
  - Two (2) vertical tubes, 2" X 3" X .250" along the sides of the window
  - Two (2) vertical tubes, for hardware attachment 2" X 2" X .125" with .250" tapping surface
  - One (1) tapping plate for the stair chair hooks, .625" thick. The stair chair bracket shall be rated to properly support 40 lbs of constant use.
  - Two (2) tapping plates for the grab rail mounting, .50" thick.
  - Two (2) 2" X 3" X .250" tube gussets at the lower door corners.
  - One (1) 2" X 2" X .125" tube gussets in the upper outer corner
  - One (1) .375" tapping plate/gusset at the hinge side upper door corner for hold-open attachment.
  - One (1) tapping plate, .50" thick machined to match the cutout of the door handle. Door handle fasteners shall be tapped into the plate for easy removal.

- Right Front Compartment Door:

  - The right front of the body shall have two (2) separate doors. The upper door shall access the equipment storage. The lower door shall access the battery storage area. Doors shall constructed as follows:
  - One (1) tubular cross member, 2" X 2" X .125" in the upper door
  - Two (2) 2" X 3" X .250" tubular Gussets on the hinge side
  - One (1) 2" X 3" X .125" tubular gusset on the hinge side.
  - One (1) .375" tapping plate at the hinge side upper door corner for hold-open attachment.
  - Two (2) 2" X 3" X .250" tubular gussets at the outboard corners of upper door.
  - One (1) 1.50" X .125" triangular plate gusset and one (1) 1" X 2" rectangular gusset at outboard corners of lower door
  - One (1) tapping plate, .50" thick machined to match the cutout of the door handle. Door handle fasteners shall be tapped into the plate for easy removal.

7. Body and Special Equipment (Continued):

7.18 Doors: As per KKK 3.10.8+ (Continued):

- Left Rear Side Compartment Door:

  - Two (2) 2" X 2" X .125" tubular cross members.
  - Two (2) 2" X 2" X .125" plate gussets at outboard corners.
  - Two (2) 2" X 3" X .250" tubular gussets on the hinge side.
  - One (1) .375" tapping plate for the door hold open.
  - One (1) tapping plate, .50" thick machined to match the cutout of the door handle. Door handle fasteners shall be tapped into the plate for easy removal.

- Oxygen Door:

  - Two (2) 2" X 2" X .125" tubular gussets on the hinge side.
  - One (1) 1.50" X 1.50" X .125" triangular plate gusset and one (1) 1" X 2" X .125" rectangular gusset at the outboard corners.
  - One (1) tapping plate, .50" thick machined to match the cutout of the door handle. Door handle fasteners shall be tapped into the plate for easy removal.

- Left Front Radio Compartment Double Doors:

  - Two (2) 2" X 2" X .125". plate gussets at the outboard corners of each door.
  - Two (2) 2" X 3" X .125" tubular gussets on the hinge side of each door.
  - One (1) .375" tapping plate for the door hold open on each door.
  - One (1) tapping plate, .50" thick machined to match the cutout of the door handle. Door handle fasteners shall be tapped into the plate for easy removal.

- Inner Door Pans: The inner door pan shall fit flush with the inner edge of the door. Inner door pans that have exposed, ragged edges are not acceptable.

- Door Seal: All module doors shall incorporate an extruded rubber seal located on the perimeter of the door. The seal shall insert into a groove in the inner door extrusion. Glued on seals or seals that are mounted to the compartment openings are unacceptable.

- Door Jamb: To ensure continued door alignment and successful latching capabilities, all access doors shall be encased by a door jamb separate from the body skin and welded to the 2" x 2" x .125" tubular body frame members. All compartment frames shall be designed to provide extra protection around the openings of the compartment.

7. Body and Special Equipment (Continued):

7.18 Doors: As per KKK 3.10.8+ (Continued):

- Before door installation to the module body, the doors shall be true fit to the doorjambs, and then later installed on the body.

- Fabrication Requirements: Module components shall be jig assembled. All doors shall fit square and true to the module shell. Doors that do not fit correctly are not acceptable. Jagged edges or openings that are not square to the body, (e.g. in the installation of door handles and door latches, body windows, or warning light assemblies) are not acceptable. The vendor shall construct the module body and doors with precision, using Computer-Numerically Controlled (CNC) equipment.

- Hinges: The vendor shall provide the following hinges for both the compartment and access doors:

  - Full-length Stainless Steel hinges and pins, .070" thick plate with a .250" diameter pin. The rear doors shall be secured to one half-inch (1/2") tapping plates welded to the structural members.

  - Slotted mounting holes are unacceptable. All doors and door openings shall have the hinges installed in exactly the same position to ensure interchangeable fit between Ambulances ordered under this contract, as well as all add-on orders.

  - The vendor shall assure through the use of assembly jigs/fixtures and the most updated equipment/manufacturing processes that the door and door/hinge manufacturing process is repeatable. For example, if spare parts are required in the future, they shall be interchangeable with the doors supplied under this purchase. If other than jigs and fixtures are used, method shall be qualified under the provisions of New Technology Qualification section and tolerances section as listed in this specification.

  - Hinges shall be attached to door frames with a minimum metal thickness of .400". Hinges shall be attached to doors with a minimum metal thickness of .375". The above dimensions do not include the leaf thickness on the hinge itself. All hinges shall be indexed to assure interchangeability.

- Door hold-open devices: The following door hold-open devices shall be provided

  - Compartment Doors: Suspa™ C16-15331, or equal, Heavy Duty Gas Filled, 100 degree extension actuator
  - Side Access Door: Suspa™ C16-15172, or equal, Heavy Duty Gas Filled, 100 degree extension actuator

7. Body and Special Equipment (Continued):

7.18 Doors: As per KKK 3.10.8+ (Continued):

- Rear Doors: Cast type, adjustable, 2 per door, Cast Products™ #10870-1, or equal. These shall be provided with lubrication fittings if available.

7.19 Protection Of Patients And Crew: As per KKK 3.10.8.1

7.20 Door Latches, Hinges, And Hardware: As per KKK 3.10.9+

- Each module door shall have one lock with the exception of the patient compartment entrance doors that shall have two, interior exterior, on each. All door handles shall be installed with security screws. All locks shall use a striker bolt that shall be easily accessible.

- All pin mounting hardware shall be installed and secured in a manner to prevent misalignment and facilitate servicing. All doors shall have a handle with lock, operable with a key on the outside (with the exception of the rear double doors where this shall apply to only one door) and without a key on the inside. All locks shall be keyed for the key to remain perpendicular to the ground when opening a door. Intrusion of knobs and/or handles into the patient compartment shall be minimized. Door design shall, as much as possible, use recessed knobs and handles. All moldings shall be final finished (no sharp edges or surfaces) and fit flush with all mitered corners. Finger-pull type cabinet door holes shall not pass completely through door(s). To avoid stressing the hinges, all hinged doors shall have a mechanism to prevent over extension, when opening. All module entry doors shall be lockable from inside.

- All Stainless Steel screws in the patient compartment shall be uniform, beveled countersunk, or equipped with stainless steel "finishing washers". All fasteners and hardware shall be Stainless Steel properly sized and graded for its application. Aluminum or non-graded hardware is unacceptable.

- Stainless Steel grab rails, Brey-Krause™ (610-867-1401) or equal, shall be installed on the interior of each Patient compartment door, and the interior driver side wall at the rear loading doors. Tapping plates shall be utilized for installation of all grab rail hardware. Location and installation shall be approved by FDNY during prototype construction.

7.20 Door Latches, Hinges, And Hardware: As per KKK 3.10.9+

- Door Handles: Heavy-duty Stainless Steel Hansen™, flush curved T-handles with Medeco™ locking cylinder shall be used for all module doors. (Refer to resource list for procurement information.)

  - Inside lock handle with turn knob: PN # S281LXXSPBTK or equal
  - Outside lock handle without lock cylinder: PN # S281LXXSPBMO or equal
  - Medeco™ lock cylinder: #96-0463T-71

- Door interconnect mechanisms: Door lock mechanisms shall be single point latching on skirt compartment doors and dual point latching on vertical doors using Rotary Latch, Tri-Mark™ (800-447-0343) #23303-01, or equal, and 23304-01, or equal, with adjustable rod interconnects. The use of cables is unacceptable. Complete access to all mechanisms for ease of repair shall be provided.

  - **LOCKS**: **ALL OEM DOOR LOCKS AND IGNITION LOCKS SHALL REMAIN OEM.**

  - Each vehicle shall be fully operable by two (2) keys (Ignition/Door and Module key). All Module doors, the fuel filler door, and all interior and exterior compartment module door locks shall be Medeco™ locks (keyed alike). Each individual vehicle' locks shall be keyed differently from the other vehicles delivered under the contract and shall be delivered with five (5) key sets per vehicle.

  - A 4" x 2" x ¼" plastic key-tag shall be provided and affixed to each of the five (5) key sets for every vehicle. Tags shall have parallel sides, semicircular ends, and smooth finished edges. Tags shall be clearly marked FDNY and include each vehicle(s) unit number and FDNY number. Keys shall be securely affixed to one end of the tag.

  - All units manufactured shall be placed on a common Medeco™ master key system based on FDNY restricted key-way and sixty series pins.

  - Pin configuration for the master key system shall be provided by FDNY after contract award. The vendor shall be responsible for the correct pinning, springs, covers, and complete installation of all Medeco™ locks by a Medeco™ certified Locksmith.

  - Medeco™ keys/locks with special key-ways shall be purchased by the vendor and supplied on all Ambulances. A list of vehicle numbers and key codes shall be supplied by FDNY after contract award. The vendor shall maintain this list and assign key codes to the appropriate Vehicle Identification Numbers (VIN). The vendor shall keep accurate records and transmit this information to FDNY.

7. Body and Special Equipment (Continued):

7.20 Door Latches, Hinges, And Hardware: As per KKK 3.10.9+

- The vendor shall use the FDNY provided list to ensure each vehicle has the appropriate key code. If incorrect, the vendor shall immediately re-pin and re-key the vehicle. The vendor shall provide the installing Locksmith's name, address, telephone number, and copy of Medeco™ certification within two (2) weeks after contract award. The vendor may contact Medeco™ to assist in locating certified locksmiths.

7.21 Floor: As per KKK 3.10.10+

- To prevent buckling or "oil-canning," FDNY requires the following construction process:

- The exterior floor skin shall be at least .125" thick, with a minimum ultimate tensile strength of 38,000 PSI (5052H34 alloy).

- The floor at the front and rear of the patient area shall be supported by 2" x 3" x .250" thick rectangular tubes.

- The remaining floor shall be supported from curbside to street side with a minimum of nine (9) 2" x 3" x .250" thick structural members.

- Full gussets shall be utilized to reinforce all cross member welds and all body mounting points.

7.22 Floor Coverings And Color**:** As per KKK **3.10.11**+

- The patient interior sub floor shall be a .500" thick composite flooring material, and shall meet all applicable FMVSS and all other applicable standards. Note: Plywood is unacceptable. This shall be installed on top of the .125" thick aluminum outer floor. The composite shall consist of two (2) outer layers of .024" aluminum skin bonded to an inner core of foam and high density polyethylene. The entire vehicle sub floor shall be one piece with no seams. It shall be attached to the tubular cross members of the body substructure with stainless steel self-threading machine screws. The screws shall not protrude through the underside of the aluminum floor. The screw holes shall be countersunk and filled in to provide a smooth surface for the installation of the vinyl flooring. A one-piece, solid sheet of Loncoin Fleckstone™ (800-832-7111) #157UV, ultraviolet resistant, heavy duty commercial grade vinyl .125" thick, minimum, with anti-microbial finish, shall be used. Color: **Moonstone**. The elimination of seams in the floor shall be accomplished by rolling the vinyl material up the side wall at least six (6") on the street side and up the entire curbside edge face.

7. Body and Special Equipment (Continued):

7.23 Step Well (Side Door): As per KKK 3.10.12+

- A 10"H x 12" Deep x .188" thick diamond plate liner shall fully encase the side door-step well. Liner shall be reinforced from the bottom and back sides. The bottom shall have 2" X 2" X .250" angle along both sides, full width. The back shall be reinforced with the same material at two evenly spaced locations. If deemed necessary by FDNY, an additional entry step shall be provided. Further details shall be discussed at the preconstruction conference.

7.24 Wheel Housings**:** As per KKK 3.10.13 +

- The wheel housing location shall not vary from vehicle to vehicle.

7.25 Insulation: As per KKK 3.10.15+

- The interior of the module shall be insulated including all exterior compartment doors. No urea formaldehyde foam, fiberglass, or asbestos shall be used. A combination of materials shall be provided to insulate the interior from exterior elements and to reduce the level of noise entering the interior. The application and use of materials shall be as follows:

7.26 Interior Body Skin: To further reduce interior road noise, the vendor shall place self-adhesive Polymer Technologies™ (800-850-9001), "Antiphon" or equal, damping pads throughout the interior surface as follows:

- Squad bench wheel well area (top and aisle side pans)
- Main cabinet wall wheel well area (top and aisle side pans).
- Top of aluminum sub floor.
- Entire left side aluminum cabinets.

- Module Door Insulation: The interior skin of all module doors including access and compartment doors shall be insulated with the following materials:
- Self Adhesive Antiphon™ padding shall wrap the entire inside surface of the door.
- A layer of ½" thick LE Reflectix™ insulation shall be installed on top of the Antiphon™ padding. Both materials shall be used to insulate the patient interior and to reduce exterior road noise.

7. Body and Special Equipment (Continued):

7.27 Interior Surfaces - AS PER KKK 3.10.16+

- Self-edged Formica™ high-pressure plastic laminate shall cover all visible surfaces, other than cabinet interiors and the patient care action area. (Note: this area shall be stainless steel). All edges shall be smooth and beveled Color shall be determined by FDNY.

- Upholstery**:** All upholstery, throughout the vehicle, shall be 32 oz, minimum, Naugahyde™, or equal. To enhance cleaning and disinfecting, the upholstery shall not include any stitched pattern on the outer surface of the material, and shall be of a 'seamless' design. Under no circumstance shall upholstery be used to cover the ceiling/headliner.

- Interior Colors**:** The following interior colors shall be provided in the patient area of the module:
  - Side walls: **Light gray**
  - Door panels: **Light gray**
  - Cot risers: **Light gray**
  - Floor: **Gray**
  - Upholstery: **Charcoal**

7.28 Storage Compartments: As per KKK 3.11 +

- All interior cabinets shall be fabricated and welded from .125" aluminum, minimum, framed with .750" X1.50" X .125" rectangular aluminum tubing. All cabinets shall be built as individual boxes. Areas that have seams shall be sealed the entire length of the seam. The outer sides of each box shall be insulated from noise. All boxes shall then be bolted together to form the main cabinet wall. The wall shall then be bolted to the module structure. Interiors shall be finished with anti-microbial, Sikkens™ or equal, **gray** textured epoxy type paint. Under no circumstances shall interior cabinets and the inside of the squad bench storage be covered with carpet.

- All exterior compartments shall be fabricated from .125" minimum aluminum, seams continuously welded. Exterior compartment interiors finished with anti-microbial **gray** Scorpion Protective Coatings™ (800-483-9087), or equal textured paint finish.

7. Body and Special Equipment (Continued):

7.28 Storage Compartments: As per KKK 3.11 + (Continued):

- Right Front Pass Through Compartment: Storage shall be provided on the front wall, inside of the curbside access door. The storage area shall be fabricated from .125" welded aluminum, installed as a separate compartment, accessible from inside and outside the vehicle. It shall be finished with the same anti-microbial paint surface mentioned above. It shall accommodate FDNY supplied bagged equipment and supplies. The vendor shall design the storage area to adequately store two (2) portable aluminum oxygen "D" tanks. The compartment shall utilize a single exterior door. All edges shall be smooth and beveled. The pass through compartment shall also incorporate an inner locking compartment, sized to easily fit two (2) Plano™ #747, or equal, cases. Final location of the inner locking compartment shall be provided and approved by FDNY.

  - Compartment Dimensions:
    - Clear Door Opening – 24" wide X 17" high, minimum
    - Compartment Interior – 26" wide X 20" high X 20" deep, minimum

- All horizontal surfaces shall have at least a one (1") inch lip for equipment retention. All exterior compartment floors and shelves shall have **black** Turtle Tiles™, or equal. All tiles shall be mated pieces that properly lock together.

7. Body and Special Equipment (Continued):

7.28 Storage Compartments: As per KKK 3.11 + (Continued):

- Street Side Rear Exterior Equipment (Backboard) Compartment**:** The backboard compartment shall be in the left rear of the module behind the rear wheels. Constructed of .125" aluminum. The compartment shall be capable of storing: One (1) Ferno Washington™ Model 65 Scoop Stretcher, One (1) Ferno™ Model 11 Folding Cot, Two (2) Iron Duck #35900NYC long backboards, One (1) Ferno™ #441 Combination Traction Splint Kit Two (2) Iron Duck™ #35961-NYC-IDEA, Two (2) 16" Padded Arm Splints, Two (2) 36" Padded Leg Splints, Two (2) 54" Padded Leg Splints. This equipment shall be secured vertically. This compartment shall also contain Five (5) disposable Extrication Collars and Four (4) disposable Head Immobilizers. Final compartment layout shall be approved by FDNY. The items shall be separated by three (3) vertical aluminum dividers and two (2) fixed aluminum shelves
  - All partitions shall be full length and have appropriate signage identifying equipment locations
  - The compartment shall have a single door. All interior edges shall be chamfered and protected.
  - One (1) Whelen™ #LINZ6R **red** LED light mounted at top of the door as directed by FDNY.
  - Signage shall be provided in this compartment as follows:

    Traction splint
    IDEA
    16" and 36" Board splints
    #11 Folding Cot
    Scoop
    54" Board Splints
    Collars

    Signs shall be **red** lettering on **white** background.

7. Body and Special Equipment (Continued):

7.29 Interior Stowage Accommodations: As per KKK 3.11.1+

- Cabinet Door Handles and Trim: The cabinet door handles shall be extruded aluminum on the leading and trailing edges running the full height of Plexiglas doors. Extrusions shall be mounted to the doors with screws and tape. The extrusions shall be free of sharp edges and have radiuses at both ends.

- A twenty four-inch (24") entry assist grab rail shall be installed at the rear of the curbside cabinet wall at the rear loading area. Location and installation shall be approved by the FDNY.

- Interior Material Requirements: Careful attention shall be given to the materials chosen for the interior of the Ambulance. The materials used shall take into account weight savings/payload capacity, durability, and ease of cleaning.

  ° The side walls and the rear walls of the inhalation area shall be finished with 16 gauge stainless steel.

- Equipment Enclosure: The door track shall be extruded with three (3) special slots for the installation of:

  -Two (2) felt door tensioners, located one on each side of Plexiglas door.

  -One (1) Teflon sliding guide on the bottom side of track.

  -The felt and Teflon shall be keyed to slide into a slot. The entire opening shall be surrounded by a matching door track joined at each end by a 45 degree miter. The track shall be attached to the cabinet with recessed screws for long-term durability.

- Edge Protection: All exposed sides of each open cabinet and/or cabinets with hinged doors (except Plexiglas doors where noted) shall be trimmed with an extruded aluminum edge cap to reduce the likelihood of chipping. All corners shall be joined by 45 degree miters to assure a tight fit. An aluminum or stainless edge guard shall protect all other exposed Formica™ edges (for example, counter tops).

7. Body and Special Equipment (Continued):

7.29 Interior Stowage Accommodations: As per KKK 3.11.1+ (Continued):

- Interior Side of Patient Door: A Ferno™ #40-0S stair chair shall be hung on a Ferno Washington™ reinforced #559 Wall hooks, secured in place with a buckled strap on the interior face of the side patient access door, below the door window. The strap shall have a reinforcement, for secure attachment to door. In order to keep the stair chair as clear as possible from the door opening, the wheels shall be recessed into the inside door face. Welded .50" tapping plates shall be furnished for attachment of the above mentioned hooks and the strap hardware. Final installation shall be subject to FDNY approval. There shall be one (1) Whelen™ LINZ6R, or equal, LED light mounted on the upper outboard corner of the interior door panel. Light shall flash when door is open.

- Squad Bench Storage: Storage shall be provided under the bench top. The area shall be full depth and shall run where possible under the bench. The storage area shall be fabricated from .125" aluminum and shall be accessed by raising the bench top/cushions. The main oxygen cylinder shall be stored in this area. Height from floor to top of cushions 20", maximum. There shall be a splint storage compartment under the bench, inboard of the oxygen cylinder.

- The 90 degree edges of the squad bench, attendant seat riser, and the front wall cabinet shall be protected by a chamfered trim angle

- The vendor shall provide squad bench lids constructed from 3/4 inch, five (5) ply marine grade plywood with smooth sanded rounded edges.

- The squad bench lids shall be installed with a continuous strip of stainless steel piano hinge with one-inch, minimum, flange on each side of a ¾-inch knuckle and a ¼-inch pin) with staggered holes for bolts. The hinge shall be secured with Stainless Steel hex head ¼-inch bolts and nylon insert locknuts with flat washers. All bolts shall extend completely through the horizontal surface of the bench lid and the hinge mounting surface (top of bench surface). The back of the bench surface shall be secured to the interior wall by an aluminum closed tube with a minimum of .250" wall thickness. The tube shall be firmly secured to each structural member it traverses by welding.

- Bench hardware**:** Two (2) Suspa™ Gas pistons shall be installed on the bench lid.

- Two (2) hold down latches shall be installed on each bench lid. Type shall be approved by FDNY.

7. Body and Special Equipment (Continued):

7.29 Interior Stowage Accommodations: As per KKK 3.11.1+ (Continued):

To accommodate the Ferno™ Model 11 folding cot, a fold-down open framed holding unit (with provisions for the post and wheel cups) shall be constructed and installed. The frame unit in down (use) position shall rest upon the squad bench lid, using the seat belts to secure the patient on the folding stretcher. In the upright (storage) position, the frame unit shall be recessed within the squad bench, backrest cushion, and secured in place with a positive locking mechanism. Prior to award, the vendor shall provide a complete drawing of the securing system for the folding stretcher and squad bench. The vendor shall describe the locking mechanisms, frame constructions, hinge details, and wall anchors

7.30 Location Of Medical Equipment And Supplies: As per KKK 3.11.1.1+

- The tank neck support bracket of the Ferno™ Model 521 shall be delivered, installed, and initially set to accommodate an aluminum "D" cylinder.

7.31 Waste and Sharps Disposal: As per KKK 3.11.1.2+

- The trim ring on the waste opening shall extend 5" down into the cabinet. All components mounted as directed by FDNY.

7.32 Exterior Storage Accommodation: As per KKK 3.11.2+

7.33 Storage Compartments And Cabinets Design: As per KKK 3.11.3

7.34 Patient Compartment Seating: As per KKK 3.11.4+

- The "I.M." disposal compartment shall be located at the head of the squad bench and shall accept material through an opening in the top of the cabinet. The disposed material shall be covered with a **red** sliding access door to prevent spillage in the event of an accident. The sharps container shall be easily removable from the compartment. A molded plastic sign shall state "INFECTIOUS MATERIAL." Final design shall be approved by FDNY.

7.35 Patient Seating: As per KKK 3.11.4.1+

7. Body and Special Equipment (Continued):

7.36 Seat Safety Belts And Anchorages: As per KKK 3.11.5+

- Interior Seating: Seat belts are required on both the attendant seat and the squad bench. The squad bench shall be designed for one person lying in the prone position or three people in a sitting position. Indiana Mills™, (317-896-9531) or equal, belts, placed in protective housings, shall be installed. All seat belt installation techniques shall meet current, applicable, FMVSS standards. All installation techniques shall be verified through static and dynamic testing as described in the instruction section of the specification. The type of testing used and test results shall be fully detailed and provided upon request to FDNY.

- Safety Netting: There shall be Indiana Mills™ P/N #F12177, or equal, full height **bright orange** netting installed at the end of the squad bench adjacent to the side entry door. In addition, the netting shall be the full depth of the bench. The netting shall utilize a "box sew" pattern, and be compliant with FMVSS 209. It shall meet a minimum tensile strength of 6,000 pounds. Further details shall be discussed at the preconstruction conference.

7.37 Litter Fasteners And Anchorages: As per KKK 3.11.6

7.38 IV Holder For Intravenous Fluid Containers: As per KKK 3.11.7+

- Perko™, or equal, hooks.

7.39 Oxygen, Main Supply, And Installation: As per KKK 3.12+

- The vendor shall use a single tank, aluminum "M" cylinder, to provide the main oxygen supply. The main oxygen cylinder shall be located in the storage compartment within the squad bench (in a horizontal position with the cylinder head positioned as close to the oxygen manifold compartment as possible), accessed via a lockable exterior door on the rear of the module. A Zico™ Quic-Release Multiversal Bracket Model QR-MV, or equal, mounted on a slide-out tilt-down track with access handle and replaceable Teflon glides, shall secure the cylinder. **For each vehicle delivered under the contract, supply a complete set of bracket replacement straps.**

7. Body and Special Equipment (Continued):

7.39 Oxygen, Main Supply, And Installation: As per KKK 3.12+ (Continued):

- The slide, once fully extended, shall be hinged to allow the bracketed cylinder to be tilted and lowered to the ground. **Yellow** safety stops shall be incorporated into the design to indicate how far to pull the slide out. The cylinder bracket straps shall be fixed so the buckles do not interfere with the slide operation. The slide shall include a positive rotary-latching device, Trimark™ #11657-16, or equal, and shall be designed to prevent the slide from releasing when the oxygen pressure reducer is attached to the cylinder.

- The slide furnished shall duplicate those currently in use by FDNY.

- A 3 inch X 7 1/2 inch engraved plastic warning sign (**Black** letters on a **yellow** background) shall be affixed to the inside of the oxygen cylinder compartment door. The sign shall read:

WARNING!
OXYGEN PRESSURE REDUCER MUST BE DETACHED
FROM CYLINDER PRIOR TO TANK REMOVAL

SUPPORT WEIGHT OF OXYGEN CYLINDER
UNTIL SLIDE RACK STOPS ON YELLOW TABS
THEN LOWER CYLINDER RACK TO GROUND

- In addition, a 2 inch X 7 1/2 inch engraved plastic warning sign (**Black** letters on a **yellow** background) shall be affixed to the top lid of the oxygen system manifold compartment. The sign shall read:

WARNING!
OXYGEN PRESSURE REDUCER MUST BE DETACHED
FROM CYLINDER PRIOR TO TANK REMOVAL

- The oxygen delivery system shall be designed with a manifold "T" assembly. The manifold assembly shall incorporate ports for installation of delivery lines to all specified outlets. The manifold system shall be located at the head of the oxygen cylinder within a compartment fitted into the squad bench. A hinged access window shall be provided in the vertical face of the squad bench for viewing the analog pressure reducer gauge and/or access to the cylinder valve.

7. Body and Special Equipment (Continued):

7.39 Oxygen, Main Supply, And Installation: As per KKK 3.12+ (Continued):

- The low pressure hosing shall attach to the main supply pressure reducer specified in Section 3.12.1.1. The supply line shall run from the pressure reducer to the manifold and from the manifold to the specified oxygen panel outlets in the action area and squad bench. There shall be no splices or bulkhead fittings in the oxygen lines. Systems shall not use fittings on the low-pressure oxygen hose other than at the manifold. The first twelve (12) inches at the oxygen line from the squad bench bulkhead fitting to the pressure reducer shall be wrapped in flexible steel spring guard material to prevent kinking and chafing. Grommets shall be used at all openings or pass throughs.

- The oxygen piping system shall incorporate electrically conductive flexible hosing within a CPVC raceway. The flexible hosing shall be a continuous run from the manifold compartment to the action wall area. The raceway shall be incorporated into the walls and ceiling of the vehicle with each end terminating at the action area wall panel and oxygen manifold compartment, respectively. The raceway shall accommodate the low pressure hosing only, transducer wiring shall be installed in a separate raceway. Hose shall be protected with spring guard. Raceway shall not contain any obstructions which would hamper the replacement of the hose. Hose should be easily replaced by drawing/fishing through the raceway. The raceway shall be heat bent to the required radius and shall not include elbow fittings or joint adhesive. All raceway terminations shall be mitered at forty-five (45) degrees and chamfered to prevent hose or harness chafing. The raceway shall be clearly labeled every twelve inches (12") "OXYGEN SUPPLY" in **green** lettering on a **white** background (14 point type). Raceway location labeling shall also be placed in no less than two (2) locations on the finished ceiling and wall surface. Labeling specification shall be the same as noted above.

- The vehicle shall be equipped with a Digital Oxygen Monitoring Device Amico #Z-TH 900011, or equal, with a two foot (2') wire harness and Deutsch™ connectors to read the pressure in the oxygen system at the action wall area.™ The oxygen monitor shall receive its signal from a transducer assembly, Amertek™ #Z-THPT-210, or equal, with a two foot (2') wire harness and Deutsch™ connectors installed in the pressure reducer. A wire harness assembly with Deutsch™ connectors shall run through the raceway and connect the monitor and transducer. The monitor shall operate as follows:

7. Body and Special Equipment (Continued):

7.39 Oxygen, Main Supply, And Installation: As per KKK 3.12+ (Continued):

- When the main oxygen cylinder reaches 500 PSI, the display shall flash and the device shall emit a steady "beep" for ten (10) seconds.

- After ten (10) seconds, the steady "beep" shall cease and the display shall flash as long as the contents remain under 500 PSI.

- When the "TEST" button is activated, the display shall flash and an audible tone shall sound.

- The Digital Oxygen Monitoring System shall incorporate a wire harness with female Deutsch™ connectors on each end within a CPVC raceway. The wire harness shall be a continuous run from the manifold compartment to the action wall area. The raceway shall be secured with rubber lined clamps at 12" intervals. Wire raceway mounted alongside the oxygen supply raceway. The wire raceway shall contain the wire harness only and not have any obstructions which could hamper replacement of harness. Harness should be easily replaced by drawing/fishing through the raceway. The raceway shall be heat bent to the required radius and shall not include elbow fittings or joint adhesive. All raceway terminations shall be mitered at forty-five (45) degrees and chamfered to prevent harness chafing

- Two (2) Amico™ oxygen wall outlets, consisting of front body #0-FA0C-DIU-U-OXY and back body #0-BAKCON-U-OXY shall be installed into a removable panel at the action area, as approved by FDNY. One (1) additional oxygen outlet with components as noted above shall be installed into the front forward vertical face of the headliner box above the squad bench. Interior headliner box dimensions shall be 5 ¼" high by 11 ½" wide. The inset shall accommodate the flow meter without extending past the vertical surface of the headliner box above the squad bench. All flow meters shall be positively attached to the wall plates. No quick-disconnect fittings are unacceptable. The securing devices for all oxygen and vacuum applications shall use the security fittings specified in the specification.

- A LSP™ #66082E, or equal, cylinder wrench shall be installed in the squad bench oxygen cylinder compartment and attached with a plastic coated wire lanyard. The wrench shall be securely fastened by a hand tight thumbscrew to the top lid of the oxygen manifold compartment.

7. Body and Special Equipment (Continued):

7.40 Oxygen Pressure Regulator: As per KKK 3.12.1 +

- One (1) Flotec™ #010-6000-466, or equal, main supply pressure reducer, shall be factory calibrated, installed, tested, and delivered with the vehicle.

- Three (3) Flotec™ #FN06-2C06P6, or equal, flow meters shall be factory calibrated, installed, tested, and delivered with the vehicle.

- Servicing, parts, and instructional manuals shall be delivered with the vehicle.

7.41 Suction Aspirator, Primary Patient: As per KKK 3.12.2+

- An Impact™ (973-882-1212) Model #324 electric suction unit shall be installed to provide for the primary patient. The suction unit shall be mounted to the left of the action area control panel. While facing the suction unit, the collection jar shall be on the left and the power switch on the right. All components shall be installed as directed by FDNY.

- The pass-through compartment shall have a Laerdal™ model #782600 portable suction unit mounting bracket installed to accommodate the FDNY supplied Laerdal™ portable suction unit model #780020. All components installed as directed by FDNY.

8. Electrical:

8.1 Electrical System**:** As per KKK 3.7.1 +

- "Scotchlock" type connectors are unacceptable

- The use of blade/spade/push-on type terminals is unacceptable. Properly sized screw type ring terminals are preferred. FDNY shall have approval on the terminal style used in a given location.

- Relays shall be mounted in/on self-locking boards or terminal strips.

- No relay or breaker shall be installed upside down.

- Multiplexing shall not be acceptable without prior FDNY approval.

- No wires shall be spliced except for devices manufactured with "pigtail" leads that shall be connected by a double crimped and soldered uninsulated butt connector covered with **self-sealing** heat shrink tubing.

- All connections shall be made at terminal blocks unless otherwise approved by FDNY.

- Wherever possible module electrical connectors shall be "Deutsch, Gold Terminal, Waterproof Connectors", or equal.

- All wiring and service loops shall be secured with rubber covered clamps, every 12", wherever possible. The use of "tie wraps" shall be minimal.

- All wiring shall be loomed with the highest rated non-flammable, fire retardant convoluted loom available. The vendor shall document that they are using the highest rated fire retardant loom available.

  Note: Due to the various cab and body configurations available, it may also be necessary for some vendor installed wiring to be run through conduit. This conduit shall be Sealtite™, or equal. All runs through conduit shall be "home runs".

- All wiring and loom shall be protected with rubber grommets and/or edge guard wherever passing through or/over any metal or abrasive material.

- All wiring shall be routed as far as possible from heat sources. If any wiring does pass by a heat source it shall be properly shielded as approved by FDNY.

- All individual electrical circuits shall have automatic reset circuit protection.

8. Electrical (Continued):

8.1 Electrical System**:** As per KKK 3.7.1 + (Continued):

- Low Amperage Switching: All vendor added circuits shall be controlled by heavy duty, continuous duty rated, relays. Switches shall control the relays. Switch circuits shall draw no more than 200 milliamps. All harness to switch connections shall be made with modular style, indexed, plug in connectors.

8.2 Wiring Installation: As per KKK 3.7.2+

- Connections to chassis wiring shall only be made at points recommended in OEM body builders manual.

- All vendor installed wiring shall be industry standard, numbered and color-coded in easily identifiable colors at 4" intervals, minimum. All relays, flashers, power distribution terminals, and automatic circuit breakers shall be located in a weather tight exterior compartment. The compartment shall be vented and designed to facilitate servicing and repairs.

- Except for a compartment light, no other wiring or electrical components shall terminate or pass through the onboard oxygen storage compartment or run in the same compartment as oxygen plumbing. Explosion proof switches and light fixtures shall be used in all oxygen compartments.

- All Module wire harness/cable routing shall be approved by FDNY.

8.3 Wiring Criteria: As per KKK 3.7.2.1 +

- All terminal strips or blocks shall be clearly labeled and readily accessible for servicing. All individual main loom runs (including, but not limited to air conditioning, warning lights, module systems) shall be permanently and uniquely color coded at approximately four inch (4") intervals and at points of origin and termination. Insulated connectors with machine applied welded barrels shall be provided with screw (not spade) fittings and tinned.

8. Electrical (Continued):

8.4 Printed Circuits: As per KKK 3.7.2.2 +

- The vendor added electrical system is based on the concept of a single distribution center. The design of the system shall separate chassis electrical operation from the vendor installed electrical system. In case of vendor component failure, the chassis shall still be operable. The central electrical distribution circuit board shall be a printed circuit board. The board shall be common in design and interchangeable with all similar models offered by the vendor. Muffin type low amperage fans shall be used to cool the rectifier electrical distribution area and 2-way radio section. The fans shall operate when the ignition switch is in the 'on' position. The fans shall vent the electrical compartment to the outside. The fans and vents shall be installed in a manner that does not compromise the weather tight integrity of the compartment. The fan intakes shall have removable air filters.

8.5 Field Proven And Time-Tested Electrical System: The vendor's added electrical system is an important design of the Ambulance. System reliability and proven performance are essential. Therefore, only a field proven electrical system that has been in service for at least two (2) years in a large city environment shall be considered to be proven technology. Any system or component that has not been proven to be reliable for at least one year of Ambulance service shall be considered "New Technology", and shall be subject to special review.

8.6 Grounding: As per KKK 3.7.3

8.7 RF Grounding: As per KKK 3.7.3.1

8.8 Batteries: Odyssey™ "Group 31" AGM batteries shall be provided. The batteries shall be stored on a .250" aluminum roll-out tray, in a separate compartment below the right front exterior compartment. Battery Mat™ (540-722-9216) shall be provided to prevent tray damage from battery acid. All hold-downs and hardware shall be Stainless Steel. The Battery compartment shall be vented to the outside, vent shall be designed to prevent entry of outside elements. The battery cables shall be Essex Excelene™, or equal, 3/0, minimum. Only Stainless Steel hex nuts and lock washers shall be accepted on the battery connections.

8.9 Connect a Matson (800-328-7730) # MA212HD Commercial Heavy Duty Anti-Zap Surge Protector to the battery system

8. Electrical (Continued):

8.10 Alternator: OEM factory dual alternators, 357 Amps, minimum. A complete system schematic and layout of the proposed system shall be provided to FDNY for approval.

- The generating system shall be capable of supplying all the electrical amperage needed by the vehicle and all accessories, under worst case operating conditions, while continuing to charge the battery. Worst case operating conditions require continuous generator output of 14.2 volts, minimum, under hot engine compartment conditions, at a high idle setting of 1500 rpm.

- The system shall have a 25% safety margin, minimum, at total load and maintain 13 volts, minimum, under 125% of full electrical load at high idle for two (2) hours, minimum. Installation shall be in accordance with component manufacturer's recommendations.

- The performance is further defined in attached **Appendix A, which is for reference only.**

- Actual performance measurements shall be submitted prior to award, measured under the same conditions and displayed on a graph comparable to Appendix A.

- Vendor shall supply, prior to award, an inventory of current draw of all electrical components specified, **similar to those shown in Appendix B, which is for reference only.** If any components in the proposed Ambulance configuration has a current draw significantly different from Appendix B, such differences shall be noted and explained in the bid.

8.11 Low Voltage Electrical System: As per KKK 3.7.6

8.12 Voltmeter And Voltage Monitor: As per KKK 3.7.6.2+

- Provide a Glowshift™ (856-768-8300) # GS-BD05, or equal, digital voltmeter mounted on the dash beside the steering column as directed by FDNY.

8.13 Automatic Charger / Conditioner: As per KKK 3.7.7.1+

- Kussmaul™ 091-120-12E-20 "Auto Charge 3 Step", or equal, shall be installed on a removable electrical panel in the left front compartment. The Kussmaul™ status panel shall be installed on the charger. A Kussmaul™ #091-55-20-120, or equal, 20 amp Super Auto-Eject connector shall be used to complete the installation, location as approved by FDNY. The OEM block heater shall be common wired to the auto eject receptacle.

8. Electrical (Continued):

8.14 Auxiliary Starting System: As per SAE J1283 – Vehicle receptacle Junction City Wiring Harness Inc™. (785-762-4400) (AKA "Whitaker") #15126, or equal, with weather tight cover (JCWH #15128, or equal) secured with cable – Receptacle shall be suitable for vehicle to vehicle starting – Positive cable wired direct to engine starter terminal - All terminals shall be OEM approved - Wiring shall be protected by grommets when passing through metal and securely clamped – Entire length of wire shall be protected from chafing by loom – Supply, with each vehicle ordered, one (1) twenty (20) foot long high amperage cable with plug (JCWH #15121, or equal), compatible with receptacle, on both ends Location of receptacle shall be approved by FDNY

8.15 Vendor Added Electrical Components**:** All vendor added electrical features/components, other than the siren control and radios, shall be powered through Tyco Electronics™ (800-522-6752) relay model #7-1618401-3, or equal.

8.16 Warning Indicators: As per KKK 3.7.1.1

8.17 Portable Equipment Charging Circuit: AS PER KKK 3.7.7.2+

- Provide one (1) Engel™ (888-272-9838) Model #MRFD015-EE, 12V, 3.9 Amp, refrigerator/freezer unit, mounted as directed by FDNY.

8.18 Internal 12-VDC Power: As per KKK 3.7.7.3 +

- Provide and install Laerdal™ receptacle/bracket, hardwired and located on the right front equipment compartment, as directed by FDNY

8.19 Master Module Disconnect Switch Or Device: As per KKK 3.7.7.4+

- Vehicle shall have a timing device that automatically turns off all Ambulance systems. The timing device shall "time out" twenty (20) minutes after the ignition switch is turned to the "off" position.

8. Electrical (Continued):

8.20 125 Volt AC Systems: As per KKK 3.7.8.3

8.21 Electrical 125 Volt AC Receptacles: As per KKK 3.7.8.2

8.22 125 Volt AC Utility Power: As per KKK 3.7.8+

- The AC wiring system shall comply with all applicable standards of KKK, National Electrical Code and New York City Electrical Code. If there are any conflicts in the codes, the New York City Electrical Code shall prevail. All AC circuits shall be GFI protected. All Circuit breakers permanently identified as to function. The AC system shall be separate and distinct from the 12 Volt system. The block heater and battery conditioner on separate circuits. One box panel shall contain all the 110 volt breakers. There shall be no 110 volt outlets in the Module interior.

8.23 Utility Power Connector: As per KKK 3.7.8.1+

- Receptacle shall be a Kussmaul™ Auto Eject as described in 8.13 above. All components shall be located as directed by FDNY

8.24 Distribution Box: As per KKK 3.7.8.4

8.25 Interior Equipment Grounding: As per KKK 3.7.8.5

8.26 Bonding Of Non-Current-Carrying Metal Parts: As per KKK 3.7.8.6

8.27 Appliance Accessibility And Fastening: As per KKK 3.7.8.7

8.28 Driver Compartment Controls: As per KKK 3.7.9+

- All switch locations and labels shall be approved by FDNY. All switches shall be mounted in a headliner mounted console centered over the rearview mirror and shall be permanently labeled as to their function. There shall be a single "emergency lights" switch that controls all warning lights. All **white** lights shall be wired to go out in the secondary mode. Console shall include a **green** "battery on" indicator light and all scene lighting switches.

8.29 Patient Compartment Controls: As per KKK 3.7.10

8.30 Marking Of Switches, Indicators and Control Devices: As per KKK 3.7.11

8.31 Electromagnetic Radiation and Suppression: As per KKK 3.7.12

8. Electrical (Continued):

8.32 Ambulance Exterior Lighting: As per KKK 3.8.1+

- Nutserts™ or Nylon threading inserts shall be used wherever possible in the mounting of lights.
- All lighting required by FMVSS and I.C.C. shall be provided.
- All lighting shall be mounted to provide ease of serviceability.
- Lights of the same color shall not be placed next to each other to prevent "wash-out".
- A metal cover shall be provided to fully protect the back of any light that protrudes into any compartment. Design of covers shall be approved by FDNY.
- All light bars shall be shock mounted with rubber grommets or pads.
- Light bar frames shall not be used for grounding purposes- separate ground wires to chassis frame shall be provided.

8.33 Ambulance Emergency Lighting: As per KKK 3.8.2 +

- Emergency lighting system shall be powered by a Whelen™ AFM1660, or equal 16 outlet KKK-Certified Power Supply

8.34 Emergency Lighting System Configuration: As per KKK 3.8.2.1+

- The following lights shall illuminate when the vehicle transmission is placed in reverse: The reverse lights, the rear warning lights, the reverse loading lights (located in the light bar as described above), and the rear warning lights on each side of the module. Further details and protocol shall be discussed at the preconstruction conference.

8.35 Photometric, Chromaticity, and Physical Requirements: As per KKK 3.8.2.2

8.36 Switching Arrangements: AS PER KKK 3.8.2.3+

- All warning light control switches shall be "Carling Technologies™ Heavy Duty Marine Grade, illuminated". All flashing lights shall be activated during full response mode. This condition shall be known as the PRIMARY mode. When the vehicle arrives 'on scene' and is placed into PARK, the lights shall then be capable of being placed into SECONDARY mode. In the secondary mode, all lights, except for the rear **amber** and **red** flashing lights, shall shut down. There shall be no device current draw through switches.

8. Electrical (Continued):

8.37 Hardware Construction and Installation: As per KKK 3.8.2.4

8.38 Tests, Warning Light System: As per KKK 3.8.2.5

8.39 The following "zones" shall be used when referring to the location of lights:

Zone "A"—Front of the Ambulance

Zone "B"—Left side of the Ambulance

Zone "C"—Rear of the Ambulance

Zone "D"—Right side of Ambulance

Note: Exact locations of all lights shall be approved by FDNY. At the preconstruction conference, the vendor shall notify FDNY of any updates / supersession to the warning lights specified. After FDNY approval, the vendor shall supply the manufacturer's most current/updated models of the light specified.

All warning lights shall be controlled by switches in the cab as directed by FDNY.

All front facing **white** / **clear** lights (which may include, but not be limited to alternating headlights), shall be **de-activated** (or change color) when the transmission is put into the 'park' position.

8.40 Warning Lights, Zone "A" Lower:

- Two (2) Whelen™ "M7RS", or equal **red** LED lights, with Whelen™ "M7FC" or equal **chrome** flanges shall be installed on the right and left side of the chassis grille. When installed, the siren speakers and grille lights shall not restrict airflow through the grille.

- Two (2) Whelen™ "VTX615C", or equal **clear** LED lamps with Whelen™ "VTXFC", or equal **chrome** flanges mounted in the angled portion of the grille.

- Two (2) Whelen™ "Hideaway Series", or equal, **clear** lamps shall be mounted in the OEM headlight capsule to perform the alternating headlight function. The use of the OEM headlamps to function as alternating headlights is not acceptable. The alternating headlights **shall not** function when:

  If the high beams are in the "ON" mode,

  OR

  The transmission is placed in the "park" position.

8. Electrical (Continued):

8.41 Warning Lights, Zone "A" Upper:

- One (1) Whelen™ "FL2NYEMS", or equal "Duo Color" LED Light Bar shall be mounted on a tapping plate to the cab roof. Installation shall not obstruct airflow into the A/C condenser. Mounting shall be approved by FDNY

- One (1) Whelen™ "M9CS", or equal, **white** LED lamps with Whelen™ "M9FC", or equal **chrome** flanges, mounted centered in the front of the module.

- Two (2) Whelen™ "M9RS", or equal flashing **red** LED Lights, with Whelen™ "M9FC", or equal **chrome** flanges, shall be installed on the module body at left and right front corners.

8.42 Warning Lights, Zone "B" Lower:

- One (1) Whelen™ "M4RS", or equal **red** LED lamp with Whelen™ "M4FC", or equal **chrome** flange mounted in the side bumper area to function as an intersection light.

- One (1) Whelen™ 500 series "50A00FAR", or equal, **yellow** LED side turn signal lights with chrome flange mounted on the front fender, location shall be approved by FDNY. Note: Due to the various chassis combinations that are available, this light may not fit certain fender layouts. In such case, the vendor shall propose an FDNY approved substitute.

- One (1) Whelen™ "M6BTT", or equal, **red** LED lamp with "M6FC", or equal, **chrome** flange lower side light shall be installed on the side of the module body. This light shall function as both a running light and turn signal.

8.43 Warning Lights, Zone "B" Upper:

- Two (2) Whelen™ "M9LZC", or equal, LED Scene Lights with Whelen™ "M9FC", or equal, chrome flanges shall be located on the side of the Ambulance. They shall be controlled by individual dash switches.

- Two (2) Whelen™ "M9RS", or equal flashing **red** LED Lights, with Whelen™ "M9FC", or equal **chrome** flanges, shall be installed on the module body at each of the module sides at the front and rear corners.

8. **Electrical (Continued):**

8.44 Warning Lights, Zone "C" Lower:

- Stop/Tail Lights: Two (2) Whelen™ "40R00XRR" or equal, **red** LED lights, with two (2) Whelen™ "4EFLANGE" **chrome** flanges, one (1) on each side of the rear body.

- Turn Signals: Two (2) Whelen™ "40A00AAR", or equal, **amber** LED lights with two (2) Whelen™ "4EFLANGE" **chrome** flanges, one (1) on each side of the rear body.

- Back-Up Lights: Two (2) Whelen™ "40J000CR", or equal, **white** Halogen, with two (2) Whelen™ "4EFLANGE" **chrome** flanges, one (1) on each side of the rear body.

Note: Mount the above three lights horizontally, and surface mounted in the rear diamond plate riser below the rear doors. Location, design and final mounting shall be approved by FDNY

- Two (2) Whelen™ "OSC0EDCR", or equal, LED License Plate Lights

8. Electrical (Continued):

8.45 Warning Lights, Zone "C" Upper:

- One (1) Whelen™ "45KNYEMS/45LRLOAD", or equal, LED light bar, mounted on tapping plate at rear of module body. The two **red** LED lights in the light bar shall be wired to the brake light switch circuit and function as high mount brake lights. Mounting shall be approved by FDNY. This light bar shall also incorporate **blue** light coverage. Further details shall be discussed at the preconstruction conference.

- Two (2) LED Brake/Tail lights –Whelen™ "M6BTT", or equal, **red** LED lamps with Whelen™ "M6FC", or equal **chrome** flanges mounted window level on rear of vehicle. These lights are to flash as warning lights when the brakes are not being applied.

- Two (2) Whelen™ "M6T", or equal **amber** LED Turn Signals with Whelen™ "M6FC" or equal, **chrome** flanges shall be placed on each upper rear corner of module body, under rear light bar.

- Two (2) Whelen™ LINZ6R, or equal **red** LED mounted at top of each door. Light shall flash whenever either door is open. The lights shall be switched separately from each other, permitting light operation on that given door should only one door be open.

- Flood And Loading Light (Exterior)**:** AS PER KKK 3.8.3+

  - The rear loading lights shall be activated whenever the vehicle transmission is shifted into the reverse position. The lights shall also be activated automatically whenever the rear doors are opened. The rear load lights shall be located in the rear light bar. An override switch inside the rear door shall enable the rear loading lights to remain illuminated with the rear doors closed. The loading lights shall shutoff automatically when the vehicle transmission is placed in "Drive".

8. Electrical (Continued):

8.46 Warning Lights, Zone "D" Lower:

- One (1) Whelen™ "M4RS", or equal **red** LED lamp with Whelen™ "M4FC", or equal **chrome** flange mounted in the side bumper area to function as an intersection light.

- One (1) Whelen™ 500 series "50A00FAR", or equal, **yellow** LED side turn signal lights with chrome flange mounted on the front fender, location shall be approved by FDNY. Note: Due to the various chassis combinations that are available, this light may not fit certain fender layouts. In such case, the vendor shall propose an FDNY approved substitute.

- One (1) Whelen™ "M6BTT", or equal, **red** LED lamp with "M6FC", or equal, **chrome** flange lower side light shall be installed on the side of the module body. This light shall function as both a running light and turn signal.

8.47 Warning Lights, Zone "D" Upper:

- Two (2) Whelen™ "M9LZC", or equal, LED Scene Lights with Whelen™ "M9FC", or equal, chrome flanges shall be located on the side of the Ambulance. They shall be controlled by individual dash switches.

- Two (2) Whelen™ "M9RS", or equal flashing **red** LED Lights, with Whelen™ "M9FC", or equal **chrome** flanges, shall be installed on the module body at each of the module sides at the front and rear corners.

8.48 Exterior Compartment Lighting:

- A single light with an individual switch shall light each exterior compartment. The lights shall be switched on automatically when doors are opened and switched off automatically when doors are closed by a hermetically sealed, magnetic type, switch. If the compartment design includes an adjustable shelf, then an additional light shall be installed below each shelf. The lights shall be Signal Stat™ 80351-3 or equal.

8. Electrical (Continued):

8.49 Spotlight: One (1) Collins™ (800-524-9900) Model #CD-CL-12-M, or equal, Handheld spotlight, 12 Volt, Momentary ON/OFF Switch, 12 Foot Coiled Cord, ABS Housing and light holder – hardwired to the console with fuse – provide a provision for storage when not in use. All components mounted as directed by FDNY.

8.50 Portable Handlight: Two (2) Bright Star Lighthawk™ (800-631-3814) Model "07802FDNY", rechargeable handlight and charger kits with 12-volt direct wired vehicle re-chargers and seat belt straps, engraved with "FDNY". Location of chargers shall be approved by FDNY.

8.51 Ambulance Interior Lighting: As per KKK 3.8.4+

- One (1) Weldon™ 1010-6310-30 surface mount dome lamp, with switch, installed in the cab ceiling between the seats as directed by FDNY. It shall be powered with the ignition in the 'on' position.

8.52 Patient Compartment Illumination: As per KKK 3.8.4.1+

- Install seven (7), minimum, Weldon™ "SS NYC 8046-0320-80" dual bulb Halogen/Incandescent, dome lights and two (2) rapid-start 12-inch (12") fluorescent lights in the patient compartment ceiling. The dome light draw shall not exceed 25A. Fluorescent Lights shall be rated/suitable for cold weather mobile application, equipped with cold start ballasts. Each row of dome lights and the fluorescent lights shall have individual on/off switches, plus dome lights shall have separate switches (one for each row) for high/low. Install dome lights: three (3) over cot area and three (3) over bench area, and one (1) in the step well area as directed by FDNY. The step well area light shall be switched with the other RH dome lights. Mount all lights to tapping plates.

- Incandescent lights shall activate when the side or rear doors are opened. With the doors closed, separate switches located on the rear control panel and action wall area shall activate each row of lights individually.

- The electrical load of the primary lighting system should not exceed twenty-five (25) amps. All lighting shall meet the minimum KKK candlepower requirements.

- A "checkout timer" shall control the three incandescent lights over the bench area. The timer shall operate the lights for a period of up to ten minutes. The timer shall operate the lights regardless of the battery-selector switch/wall switches position. The timer control shall be mounted on the action area wall panel. This timer shall also control the Oxygen Minder.

8. Electrical (Continued):

8.53 Switch 'On' Indicator Light:

- All switches on the consoles described below shall include a **red** indicator light (unless otherwise noted) to indicate when a circuit has been turned 'ON'. All switches shall be Heavy Duty Marine Type as per section 3.

8.54 Switch Panel Design:

- The cab console for the electrical switch panel and vendor added components shall be manufactured from .125" aluminum. Each console shall contain a combination of control switches as described below. All control switches shall be easily removable for service. The design and location of the console shall be approved by the FDNY prior to construction. The panel shall be insulated on the inside with non-conductive material, to prevent electrical shorts. All switches and controls shall be mounted as directed by FDNY.

8.55 Cab Control Switching:

- Console Switches:
    - Computer mount installation.
    - Siren Control Head.
    - 400MHZ Radio and Speakers.
    - Hand Spotlight

- Overhead console, centered above the windshield:

    - Battery power indicator light
    - Emergency lights
    - Right side scene lights
    - Left side scene lights

- Dash mounted panel, mounted to the right of the steering column:

    - Door opening warning
    - Compartment opening warning
    - Vehicle security / "secure idle" system
    - Horn/siren

- All console and panel designs shall be approved by the FDNY before construction.

8. Electrical (Continued):

8.56 Patient Area Control Switching:

- Switch Activation: The patient area control switches shall be installed in an aluminum panel with security screws. All switches shall be permanently labeled as to function. The following circuits shall be provided on the switch panel:

  A. Rear HEAT/AC Activation with panel mounted indicator light.
  B. Rear Heat/AC Fan Speed Control.
  C. Power Vent.
  D. Cot Dome Lights and Bench Dome Lights.
  E. Suction.
  F. Light timer
  G. Florescent lights.

8.57 Module Compartment And Access Door Switches:

- Exterior circuits such as loading lights, side scene lights and compartment lights shall be activated by low amperage, non-mechanical switches. The vendor shall install a magnetic type switch which closes the circuit when the magnetic plane is broken.
- Plunger type switches are unacceptable

8.58 Door Open Warning Indicator:

- The vendor shall install one (1) Weldon™ 9186-1230-10 **red** LED, surface mount in a highly visible location, as approved by FDNY. To function as 'DOOR OPEN' warning indicator light for all access and exterior compartment doors. This circuit shall function with the ignition in the "on" position.

8.59 Back-Up Alarm**:**

- A Trucklite #92905, or equal, adjustable audible alarm shall be mounted at rear. Alarm shall sound whenever the vehicle transmission is placed into reverse. The backup alarm shall comply with the requirements of SAE J994, type C as well as any other applicable regulations.

8.60 Back-Up Camera:

- Install one Rosco™ (800-227-2095) model #STSK7165, or equal, color back up camera system with sound capability. System shall include, but not be limited to: camera, monitor, power/video distribution harness, 65' heavy-duty extension cable with waterproof twist-lock connectors, accessories and installation/user manual. Mounting location of all components shall be approved by FDNY.

9. HVAC System:

9.1 Environmental Systems: As per KKK 3.13.1 +

- The vendor shall supply system performance specifications, and dimensional drawings prior to award.

- **Due to FDNY's severe duty cycle and operating environment, proper HVAC system function is of critical importance. If it is determined that the HVAC system does not meet FDNY's requirements, the vendor shall be required to modify the system in any way necessary to meet FDNY's needs. Further details shall be discussed at the preconstruction conference.**

9.2 Heating Criteria: As per KKK 3.13.2 +

- If deemed necessary by FDNY, a booster pump shall be added to the HVAC system to improve performance and air delivery. The booster pump shall be Hoseline™ Model "EWP 12V ¾".

9.3 Heater System:

- Cab Heating System: In addition to the chassis manufacturer's heating system, an OEM supplemental cab heater system shall be provided.

- Module Heater System: Hoseline™ Model "HU4900" 36,000 BTU minimum at 580 CFM, minimum.

- Location**:** A low loss heating system is required. To increase efficiency of the hot water flow to the rear heater the unit shall be located at floor level, under the attendant seat. **NOTE:** All hoses shall be covered with chafe guard, and as necessary hoses in engine area shall be protected with heat shield.

- Air Flow: To provide uniform temperature levels throughout the patient area, an air intake system shall be installed providing 150% return area for better air flow. The vendor shall design separate air intakes and exhaust ports. Systems that combine both air intakes and exhaust ports within the same grille work are unacceptable. All grilles shall be constructed of aluminum, capable of withstanding NYC operating conditions.

- Heater Water Shutoff**:** A Hoseline™ #GP400 electrically operated water valve kit shall control the flow of hot water from the engine to the rear-heating unit. Flow opening to the rear heater shall be activated when the rear heater switch is turned to the "ON" position. **NOTE:** Manual shut off valves are unacceptable.

9. HVAC System (Continued):

9.4 Air Conditioning Criteria: As per KKK 3.13.3+

- Air Conditioning Unit: Hoseline™ Model # "NY344-1131L-32", 30,000 BTU minimum at 580 CFM minimum.

- Hoseline™ model # "TMC2004H W/FB" Top Mount Condenser with internally mounted dual 12 volt pusher fans, 2,560 CFM, minimum, 16" mounting wedge. There shall be a switch installed in the electrical compartment to shut off the power to the condenser fans. It shall be labeled "On/Off".

- Condenser shall be installed in front of the module with an unobstructed flow of air. The unit shall be mounted with stainless steel hardware and bolted to the Module by the use of a tapping plate that is welded to structural members.

- The vendor shall supply system performance specifications, and dimensional drawings prior to award.

- Patient Area Heating/AC standards: The Heat/A/C, system shall effectively modify the climate of the patient compartment, as per KKK-A-1822F. The system shall be easy to service with connections located near OEM heat/AC connection points.

- The air conditioner unit shall be installed in close proximity to the ceiling. The heater unit shall be installed in close proximity to the floor. The A/C shall have a louvered airflow control. There shall be an On/Off switch in the cab to control the current flow to either the heater or the air conditioner switch in the rear compartment. Rear heat and A/C units shall not be operable with the ignition off. Heavy duty grille protection shall be provided for the heater outlets to prevent damage.

- All air conditioner hoses shall be Aeroquip™ "EZ Clip" fittings. All hose covered with chafe guard.

- All air inlets, heat and air conditioning, shall contain removable filters, removable from the front intake area.

- Both the rear heater and rear air conditioner shall meet all applicable requirements of KKK-A-1822F for environmental conformance and New York State NYCRR, Part 800.

9. HVAC System (Continued):

9.5 Ventilation Criteria: As per KKK 3.13.4+

- Powered Vent: A 12 volt power vent shall be located on the side of the module body at the rear. The vent shall be wired through a switch, with pilot light, located on the patient compartment action wall.

9.6 Environmental Controls: As per KKK 3.13.5+

- Hoseline™ Model #CM3000, or equal, Remote Sensor Thermostat, digital readout cool/heat function, 3-speed fan speed control, shall be used to control heat/cool functions in module. Located on the patient compartment action wall as approved by FDNY.

9.7 Patient Compartment Sound Level Criteria: As per KKK 3.13.6

10. Two-Way Radio Specification:

10.1 Communications Equipment: As per KKK 3.14.1+

- The radio console shall be located in the vehicle cab. Exact location, design and configuration shall be determined during prototype development. The design shall allow both the driver and passenger in the cab to safely access and operate the MDC, voice radio and PA microphones, and control heads. The design shall not restrict access to vehicle features such as temperature and air conditioning controls, cup holders, AM/FM Radio controls, 12v power plug(s), etc. FDNY Radio Repair Shop shall have final approval on the final installation and layout of equipment.

- The Contractor shall be responsible for any radio console redesign, reconfiguration or relocation that may be required due to equipment additions, deletions, modifications or related equipment changes.

- The Contractor shall be responsible to ensure all equipment installed in the cab will not interfere with the operation of passenger protection devices such as seat belts and airbags.

- The Contractor shall provide (1) set of radio locking keys, console securing bits, and any other keys or bits used to access any radio equipment to the FDNY Radio Shop for each Ambulance delivered.

10.2 Radio (Mobile) Provisions: As per KKK 3.14.2+

- The Contractor shall furnish and install one (1) 2-gauge wire originating at the input of the battery disconnect switch and terminating at a feed post in the Radio Compartment. This feed post shall be labeled "12 VDC HOT." The 2-gauge wire shall be protected by an 80 Amp circuit breaker. Entire length protected from chafing. All feed posts shall be installed to allow easy access for service. A radio mechanic shall not have to remove equipment or shelving to access these posts.

- The Contractor shall furnish and install one (1) 2-gauge wire, originating at the output of the battery disconnect switch and terminating at a feed post in the radio compartment. This feed post shall be labeled "12 VDC SWITCHED." The 2-gauge wire shall be protected by an 80 Amp circuit breaker. Entire length protected from chafing. A radio mechanic shall not have to remove equipment or shelving to access these posts.

10. Two-Way Radio Specification (Continued):

10.2 Radio (Mobile) Provisions: As per KKK 3.14.2+

- A feed post connected to the vehicle electrical ground shall be furnished and located in the radio compartment below or next to the 12 volt feed posts described above. This ground post shall be wired directly to the chassis of the vehicle using appropriately sized stranded copper cable and shall be wired so that the radios, MDC, or siren will not provide the vehicle ground in case of intermittent or actual failure of the grounding system. The feed post shall be labeled "GROUND." A radio mechanic shall not have to remove equipment or shelving to access these posts.

- Vehicle chassis to ground shall not exceed 1 Ohm.

- Actual connection between the Hot and Switched posts and the radio and MDC equipment shall be done using separate fuse blocks that are mounted in the radio compartment. The connection from the posts to the fuse block is to be made using 8 Gauge stranded copper cable. The fuses shall be of the "ATC" Blade type. Each required radio and MDC connection shall have its own fused spot on the block; no multiple connections to one spot. The fuses shall be sized as per the manufacturer's specification. These fuse blocks shall be installed so that they are readily accessible and clearly labeled for ease of service. These fuse blocks shall be sized to have two additional available fused connections on each block after all equipment has been installed. All feed posts shall have insulating covers to prevent accidental electrical short circuits. The fuse boxes are to be the following, made by Blue Sea, **4** total needed, 3 of #5029 and 1 of #5025

- A professional mechanical drawing or similar professional grade depiction of the fuse block layout shall be provided on the door of the radio compartment. This drawing shall be secured in a safe weather-tight permanent fashion for easy reference. Actual drawing/depiction to be approved by FDNY Radio Shop.

- All terminating connections shall be soldered and mechanically crimped using insulated crimp connectors. Twisting together of wires is not permitted. Heat-shrink tubing may be used to protect these crimped connections. All individual wires shall be one contiguous run from source to load; no "butt" connections or extensions are to be used.

All radio cables shall be individually run within protective conduit as much as possible. Cables shall not be tie wrapped together within any unexposed area or conduit to allow individual cables to be replaced, should the need arise. Conduit should be sized to allow cables to pass their termination sides and connectors without having to cut or splice cables.

10. Two-Way Radio Specification (Continued):

10.2 Radio (Mobile) Provisions: As per KKK 3.14.2+

- Exposed wiring shall be enclosed in flexible wire loom for protection. Securing of loomed cables outside of a protective conduit shall be done using nylon tie wraps. The use of electrical tape for the securing cables and wiring will not be permitted.

10.3 Antenna, Cable, and Access: As per KKK 3.14.3+

- Install six (7) Low profile antennas and one (1) GPS antenna with antenna cables in each vehicle. An access plate shall be installed in the patient compartment directly beneath each roof mount antenna location.

- Supply a channel or other protected passageway to allow for replacement of antenna cables, should that ever become necessary.

- The low profile antennas shall be mounted on the vehicle roof in a square pattern, separated from each other by a minimum of thirty-six inches (36"). The GPS antenna shall be mounted on the vehicle roof, as far as possible from the low profile antennas, from any edge of the roof, and in accordance with the manufacturer's recommendation. Final locations to be approved by FDNY Radio Repair.

- The low profile antennas shall be mounted a minimum of twelve inches (12") from the vehicle edge and a minimum of eighteen inches (18") from any roof mounted obstruction.

- Splicing or joining of antenna cable is unacceptable. All cable shall be continuous from radio component to antenna. The antenna roof mount shall be Larsen NMOKHFTHK (thick mount). The coax must be of the low loss type, solid center conductor with an operating frequency range 0-6GHz and meets or exceeds the manufacturer's specification for use with above mounts and antennas. The mount and antenna shall be purchased as a kit where the coax is pre-soldered to the mount by the manufacture.
  Upon exact length determination the vendor shall work with Larsen to produce a new part number if needed. Presently FDNY custom 25ft is Larsen part #364520

- All low profile antenna cables and GPS receiver antenna shall terminate within the radio compartment. The GPS antenna cable shall be run to the radio compartment and connected to the GPS receiver. Adequate slack must be provided to allow for removal of equipment, to reduce strain on the terminations or connectors, and to allow a connector to be replaced.

10. Two-Way Radio Specification (Continued):

- The antennas shall be installed as follows:

  800 MHz VRM850 Data Radio antenna shall be on the front driver's side area of the roof, Larsen model LP800NMO (white).

  2.5GHz NYCWIN antenna (Larsen part#LPT825/19NMOHF) shall be on the front passenger side area of the roof, and shall be terminated on the NYCWIN modem used along with the MDT-data system.

  2.5GHz NYCWIN antenna (Larsen part#LPT825/19NMOHF) shall be on the Mid rear of the roof, and shall be terminated on the NYCWIN modem/PIM used along with the EPCR Device

  2.4GHz Wi-Fi antennas (MP antenna part# 08-ANT-0899) (two per vehicle) shall be placed centered to the other antennas one on the drivers side one on the passenger side keeping to the square pattern.

  The 400 MHz voice radio antenna (Larsen model LP470NMO-white) shall be located on the driver's side rear area of the roof.

  The 400 MHz Telemetry antenna (Larsen model LP470NMO-white) shall be located on the passenger side rear area of the roof,

- All antenna locations and cable termination locations may be subject to change. FDNY Radio Repair Shop shall make final determination as to locations during prototype development.

10.4 Two Way (Mobile) Radio Equipment: As per KKK +

- All radio equipment shall match and be interchangeable with existing FDNY-EMS communications systems and equipment. The two-way radios and the siren amplifier shall be installed in an exterior compartment located in the forward most area on the left (driver's side) of the vehicle, or directly adjacent to the electrical compartment. This compartment shall be known as the Radio Compartment, with minimum interior dimensions of: 24"W X 18"D X 37"H. The radio compartment shall contain five (5) shelves. Each shelf shall be continuously vertically adjustable. Initial space between shelves shall be six inches (6"). Temperature of compartment shall not exceed temperature limits of equipment within.

10. Two-Way Radio Specification (Continued):

- The Contractor shall furnish and install a Motorola ASTRO XTL5000 UHF Radio, Model # M20SSS9PW1N-SP01, with each vehicle to include:

    1) 450 MHz-520 MHz operation
    2) Control Head Software, 05 (G444)
    3) Control head, 05 (G442)
    4) Astro Digital CAI Operation (G806)
    5) Smartnet Operation (G50)
    6) Enhanced Digital ID Display (G114)
    7) Remote Mount (G67)
    8) 10 Watt audio (W432)
    9) Key lock mount (W81)
    10) Microphone (W22)
    11) FDNY Emergency Tone Set(G857)

- The Contractor shall provide three (3) copies of the latest Radio Service Software for the ASTRO XTL5000 UHF Radio, or latest programming interface and three (3) sets of programming cables Part #HKN6163 latest revision. This software and programming equipment is to be delivered to the FDNY Radio Shop.

- The contractor shall program the radio with the latest codeplug-programming configuration used by FDNY EMS. The FDNY Radio Shop can assist the vendor with the proper information at time of programming.

- The contractor shall furnish and install a specialty cable that allows the XTL5000 microphone and or handset to plug directly into rear of the control head The procedure to make this cable will be supplied by FDNY Radio Shop.

- The following Motorola Part numbers are required for each cable, each vehicle will require two of such cable.(HLN6169A), (0964501H02), (3980034F05).

- Contractor shall physically engrave each radio and MDC component, including all spares, with a FDNY serial number. The engraving shall be consistent with the manufacturer's guidelines and engraved using professional engraving practices. No "hand held" engraving is allowed. Final location and font size to be approved by the FDNY Director of Radio Repair Operations or his designee. Serial numbers will be provided by the FDNY Radio Shop.

MOBILE DATA COMPUTER (MDC)

- The Mobile Data Computer (MDC) as referenced within these specifications is to mean any and all radio equipment, modems, mobile computers, cabling, mounts, power supplies (internal and/or external), software, peripherals, interface devices, etc. needed to make a working system to provide communication over the FDNY Data Radio Systems (RD-LAP 19.2 protocol)

10. Two-Way Radio Specification (Continued):

- The Contractor shall Install a FDNY furnished Motorola VRM850 Radio Modem, and a FDNY furnished NYCWIN Modem with each vehicle. Item # 1 below supplied by FDNY, Item #2 below shall be supplied by vendor, Item #3 below supplied by FDNY

    1) VRM850 Radio Modem (identified as item #14 in the F5208 MDR810 list below)
    2) Motorola FKN4174 Cable, DTE 20FT DB9 M-F W/BKT (equivalent to item in the F5218 MDR810 list below)
    3) NYCWIN 2.5GHz Radio Modem

- The Contractor shall provide three (3) copies of the latest Radio Service Software for the Motorola VRM850 Radio Modem, one (1) SmartRIB or latest programming interface box to the modem, if needed, and (3) sets of programming cables. This software and programming equipment is to be delivered to the FDNY Radio Shop.

- The contractor shall program the Motorola VRM850 Radio Modem with the latest codeplug-programming configuration used by FDNY. The FDNY Radio Shop can assist the vendor with the proper information at time of programming.

ePCR Equipment (Electronic Patient Care Report)

The Contractor shall furnish and install the following with each vehicle available from DRS Tactical.

0000F46675-0000	2	VEH CABLE KIT W/ 4.5 AMP LIND 12 V
8900F51235-0000	2	CABLE, X10GX VEH DOCK POWER ONLY
9800F26200-0000	2	SLIM VEHICLE DOCK FOR TABLET PC
9850F51275-0000	2	KIT-WALL MOUNT ADAPTER BRACKET

The Contractor shall install two (2) In-Vehicle Docking Station/ Chargers with each vehicle. Power will be provided from a 12 VDC location on the fuse block in the radio compartment and shall be fused independently from other equipment. Each battery charger shall be fused individually. Actual mounting locations and final wiring configuration shall be determined by FDNY Radio Repair.

10. Two-Way Radio Specification (Continued):

Docking Station 1 shall be mounted in the patient area in rear of vehicle on wall near Cadex chargers

Docking unit two in front cab driver area on rear wall or console. Final location to be determined by FDNY radio repair

- Install ChargeGuard Model "CG-X"(2) required per vehicle. One, in the radio compartment on same wall as 12 volt feed posts.
- The second CG-X to be placed on the lower shelf of the radio compartment
  - Input/Battery terminal to be wired to a clean, unswitched 12 volt DC source, Output wired to selected fuse block. ChargeGuard is to be configured/set to trigger with a switched 12 volt DC input. Final wiring configuration to be determined by the FDNY Radio Shop during prototype development.

- Install NEWMAR MODEL MDP-25 on selected shelf in radio compartment. Input wired to hot feed post with wire gauged to support proper operation of device under full load. Final wiring configuration to be determined by the FDNY Radio Shop during prototype development.

- Contractor shall physically engrave each MDP-25, with a FDNY serial number. The engraving shall be consistent with the manufacturer's guidelines and engraved using professional engraving practices. No "hand held" engraving is allowed. Final location and font size to be approved by the FDNY Director of Radio Repair Operations or his designee. Serial numbers will be provided by the FDNY Radio Shop.

- Contractor shall physically engrave each modem, with a FDNY serial number. The engraving shall be consistent with the manufacturer's guidelines and engraved using professional engraving practices. No "hand held" engraving is allowed. Final location and font size to be approved by the FDNY Director of Radio Repair Operations or his designee. Serial numbers will be provided by the FDNY Radio Shop.

10. Two-Way Radio Specification (Continued):

- The Contractor shall furnish and install a Motorola MDR810 Fixed Mount Mobile Data Computer in each vehicle to include:

  F5208 MDR-810 with External Two-Way 800MHz Data Radio/Modem shall include the following:

F5218	MW810 WORK STATION
V648	24' DISPLAY CABLE MODEL# FKN8070BSP01
V699AK	TWO(2)YEAR EXPRESS SERVICE PLUS
	ALL POWER,CONTROL AND INTERCONNECTING CABLES
TBD	DOWNGRADE TO WINDOWS XP-PRO operating system
FKN4174	DTE 20 FT DB9 M-F W/BKT
VA00738AA	INTEL i7-3610QE, IVY BRIDGE QUAD CORE I7
VA00822AA	WIN 7 PRO 32BIT OS
VA00079AA	COMM and VIDEO I/O EXPANSION BOARD,R2.X
VA00763AA	8GB,DDR3, 1600MHZ DUAL SLOT
VA00751AA	SOLID STATE DISK,256GB
VA00799AA	R2.0 DEAD RECKONING GPS MODULE, NO ANT.
VA00796AA	12.1"XGA 1500NIT DISPLAY,60 PIN,US REG LBL
VA00840AA	KEYBOARD,US
VA00017AB	BLUETOOTH COMMUNICATION,V2.1
VA00845AA	5.0M(16.4FT) MW810 CPU-DISP.CBL,60/60,DVI
DS500E87-FDSP	KEYBOARD COVER-VIZIFLEX
3002823C31	GPS COAX W/ CONNECTORS
8508851K21	GPS ANTENNA, WHITE
FKN0007A	AUX CABLE W/CONN BLK, PLUS 2 EXT CURRENT GPO, 0.63M (25 INCH), MW810
DSGJ71100913	MOTOROLA MDR810 MOUNTING SOLUTION
0384244C03	WING SCREWS FOR (CPU 4 PER UNIT)

- 1) The contractor shall ensure that the F5208-SP01 MDR-810 will perform using FDNY's client software. The EMSCAD Manager / FDNY BTDS EMSCAD Programming can be contacted for specific software and EMSCAD operational requirements. The FDNY Radio Shop can be contacted for specific hardware and interconnection requirements.

- Motorola mounting solution shall include all brackets and hardware necessary to mount the MDC in a way that is acceptable to FDNY EMS Operations and approved by FDNY Radio Shop.

10. Two-Way Radio Specification (Continued):

- Motorola part number 0384244C03 wing nut screw shall be used to secure the MDR810 CPU in its mount (4 wing nuts per CPU).

- The contractor shall program the MDC with the latest computer image and CAD client used by FDNY EMSCAD. FDNY EMSCAD can assist the vendor with the proper information at time of programming.

- The contractor shall provide two complete working image copies on no smaller then 64GB USB flash drive, with instructions on how to properly install this image on a new MDC. One image with instructions is to be delivered to FDNY EMSCAD and the second to FDNY Radio Shop. The USB Flash Drive must be approved by the FDNY Radio Shop to ensure compatibility.

- If at any time during the life of the contract the imaging process changes for the MDC, the contractor shall provide two complete working image copies on 64GB or larger USB flash drive, with instructions on how to properly install this image on a new MDC. One image with instructions is to be delivered to FDNY EMSCAD and the second to FDNY Radio Shop.

- The contractor will use the Ucenter by UBlox to configure the GPS receiver and dead reckoning components with the appropriate FDNY configuration.

- The contractor shall insure that the MDC Model F5218-SP01 will perform as intended and has all the present day applications and modifications. This is to include all GPS applications and patches and any related applications or patches.

- All programmable function keys on the MDC screen and keyboard shall be labeled by the vendor using labels that will not overlap the keys nor damage the screen or keyboard. Function key layout and use will be defined by FDNY EMSCAD.

- Contractor shall physically engrave each CPU, keyboard, and screen, with a FDNY serial number. The engraving shall be consistent with the manufacturer's guidelines and engraved using professional engraving practices. No "hand held" engraving is allowed. Final location and font size to be approved by the FDNY Director of Radio Repair Operations or his designee. Serial numbers will be provided by the FDNY Radio Shop.

10. Two-Way Radio Specification (Continued):

FIXED MOUNT MOBILE DATA COMPUTER (MDC) EVALUATION UNITS

- Upon award of contract, a minimum of 30 days prior to any Ambulances being delivered, the contractor shall deliver two (2) complete MDC's for technical evaluation. "Complete," means any and all data radios, modems, computer equipment, cables, peripherals, programming, licensing, engraving, installation and mounting hardware, etc. to make a complete, functioning unit as if it were to be installed in a vehicle.

- Both units shall be installed on two separate wheeled carts provided by the contractor with an external power supply, modem, data radio, data radio antenna, etc, to make a complete and working MDC as if it were installed in a vehicle. One of these units shall be delivered to FDNY EMSCAD Programming at 11 Metrotech Room 4-4 Brooklyn, NY 11201. The second of the two evaluation units installed on a wheeled cart as listed above shall be to be delivered to the FDNY Radio Shop, 58-65 52nd Road, Woodside, NY 11377.

- There shall be three (3) hard copies and three (3) soft copies of all technical service manuals with descriptions of maintenance down to component level with circuit diagrams for all radio and computer hardware and peripherals delivered to the FDNY Radio Shop with the evaluation unit.

- The evaluation units will be of the same model and version as the ambulances and will have Ucenter by Ublox installed on them and any applications necessary to control and configure the MDC and its accessories such as the GPS receiver, Dead reckoning, components, touch screen, touch pad, keyboard, volume control, on screen buttons, etc.

- All evaluation units shall be delivered to each of their respective locations accompanied by:

  1) Software licenses for Microsoft Windows OS and any other software required.
  2) All media and documentation for all software and hardware
  3) All peripheral equipment required by manufacturer to install software on and maintain the MDC, and to create bootable images that include all customizations made to and configurations by FDNY and such as media, USB flash drive, CD drives, floppy drives, DVD drives, media burners, etc. Two (2) sets of peripheral equipment shall be delivered to FDNY EMSCAD Programming at 11 Metrotech Room 4-4 Brooklyn, NY 11201. Two (2) sets of peripheral equipment shall be delivered to FDNY Radio Shop, 58-65 52nd Road, Woodside, NY 11377.

10. Two-Way Radio Specification (Continued):

- If at any time during the life of the contract the configuration of the MDC changes in any way, such as BIOS, memory, operating system, hard drive size or composition, CPU, GPS, dead reckoning, keyboard, touchscreen, monitor, radio, speaker, interface ports, drivers, chips, imaging process etc, the contractor must supply two new evaluation units with a minimum of 30 days prior to any Ambulances being delivered with the new hardware, the contractor shall deliver two (2) complete MDC's for technical evaluation. Complete means any and all data radios, modems, computer equipment, cables, peripherals, programming, licensing, engraving, installation and mounting hardware, etc. to make a complete, functioning unit as if it were to be installed in a vehicle.

- If at any time during the life of the contract the imaging procedure or hardware required for imaging the MDC changes in any way, the contractor must supply with a minimum of 30 days prior to any Ambulances being delivered that require the new imaging process all peripheral equipment required by manufacturer to install software on and maintain the new MDC, and to create bootable images that include all customizations made to and configurations by FDNY and such as media, USB flash drive, CD drives, floppy drives, DVD drives, media burners, etc. Two (2) sets of peripheral equipment shall be delivered to FDNY EMSCAD Programming at 11 Metrotech Room 4-4 Brooklyn, NY 11201. Two (2) sets of peripheral equipment to be delivered to FDNY Radio Shop, 58-65 52nd Road, Woodside, NY 11377

FIXED MOUNT MOBILE DATA COMPUTER (MDC) POWER REQUIREMENTS

a) Wired to a clean voltage source. Source shall be protected to prevent voltage spikes and noise from affecting the radio and MDC equipment.

b) Must respond to ignition sense or battery switch on/off to allow MDC, RF transmitter and modem to power off cleanly after vehicle ignition or battery switch has been shut off as though user shut down the MDC via Windows GUI.

c) MDC, RF modem and RF Transmitter shall boot when vehicle ignition or battery switch is turned on without Scandisk or other recovery application running on startup. The FDNY MDC client software shall operate properly upon boot up and turn on of the MDC. Proper operation is as defined by FDNY Radio and EMSCAD.

d) Vehicle VSS, Forward/Reverse indication and Ignition key 12v switch terminals are to be provided in the radio compartment for easy connection to the MDR810. Motorola should be contacted for specific electrical requirements. FDNY Radio Shop is to approve final VSS and Forward/Reverse terminal location and proper operation with dead reckoning GPS device.

10. Two-Way Radio Specification (Continued):

e) MDC, GPS and dead reckoning devices must not use volatile system memory or require power to store data such as dead reckoning calibration information, ephemeris/almanac data, etc.

Note: The VSS line shall be the OEM chassis manufacturer's engineered unit. Wheel sensors and/or aftermarket devices shall not be acceptable.

MOBILE DATA COMPUTER (MDC) USER MANUAL

- FDNY EMSCAD will provide the contractor with one loose single sided printed copy of the FDNY MDC User Manual. The contractor will place one bound single sided printed copy of the FDNY MDC User Manual in each vehicle.

TELEMETRY RADIO EQUIPMENT

- The contractor shall provide (2) CAT 6 connections on each side of patient area. One on the bulkhead /action area the other directly across under splint cabinet above patient cot. Final location to be determined by FDNY Radio Shop.
- The Contractor shall furnish (1) General Devices Rosetta-Lt 12 Lead ECG Data Translator with LP-12 co, model # 040-184-7100
- The contractor shall furnish the following cables for the Rosetta-Lt:
  - (1) 034-184-020BConnects the Rosetta to the Phillips MRX
  - (1)035-184-071A –Cable that connects the Rosetta to the Motorola XTL5000 radio.
- The Contractor shall furnish and install a Motorola ASTRO XTL5000 UHF Radio, Model # M20SSS9PW1N-SP01, with each vehicle to include:

450 MHz-520 MHz operation

1) Control Head Software, 05 (G444)
2) Control head, 05 (G442)
3) Astro Digital CAI Operation (G806)
4) Smartnet Operation (G50)
5) Enhanced Digital ID Display (G114)
6) Remote Mount (G67)
7) 10 Watt audio (W432)
8) Key lock mount (W81)
9) Alt:Mobile handset microphone w/hangup cup(G874)
10) FDNY Emergency Tone Set(G857)
11) Handset hanger Roanwell part# 453-620-006-603

10. Two-Way Radio Specification (Continued):

The telemetry radio head shall be mounted in the patient area on the bulk head by the action area. The Rosetta to XTL5000 cable (specified under telemetry equipment) shall be run from the transceiver in the radio compartment to a bulk head mounted cat-5 jack

A splitter shall be placed behind the bulk head wall that allows for the second cat 5 jack run. The cable run to and from the cat jacks shall be cat6

- Final mounting location to be approved by the FDNY Director of Radio Repair Operations or his designee.
- Contractor shall physically engrave each Motorola XTL5000 and Rosetta-Lt, with a FDNY serial number. The engraving shall be consistent with the manufacturer's guidelines and engraved using professional engraving practices. No "hand held" engraving is allowed. Final location and font size to be approved by the FDNY Director of Radio Repair Operations or his designee. Serial numbers will be provided by the FDNY Radio Shop.

PORTABLE RADIO BATTERY CHARGER

The Contractor shall furnish and install (2) Cadex, Model UCC2, specifically and specially designed for FDNY, In-Vehicle Portable Radio Battery Chargers One charger will be configured with appropriate inserts to charge both Motorola RNN4007AR Hi-Capacity NiMH and NTN8297A NiCad XTS series batteries. The second charger will be configured with the appropriate inserts to support to support the DRS Tactical Systems tablet computer.

Cadex can be contacted for FDNY particulars at 22000 Fraserwood Way, Richmond BC V6W 1J6 (604) 231-7777 x 317, attn: Bruce Adams

The batteries shall be secured in the chargers as to prevent the batteries from ejecting from the chargers without user intervention. The chargers shall be capable of mounting horizontally or vertically on a wall or flat surface. Power will be provided from two spots on the switched 12-volt fuse block in the radio compartment and shall be fused independently from other equipment. The grounds will be obtained from the ground lug in the radio compartment. The wires will be one contiguous line from the source and ground, using all required safety and securing methods, terminating at the charger mounting location. The chargers will be mounted on the interior front wall of the patient compartment, above the window opening to the cab. Final mounting location to be approved by FDNY Radio Shop.

10. Two-Way Radio Specification (Continued):

- The Ambulance manufacturer shall work in conjunction with FDNY and the communications equipment vendor to determine the best layout for all cable and equipment installation. FDNY Radio shall have final approval on component/material selection, layout and final installation of all radio related equipment.
- Final installation design of all radios and control heads shall be as directed and approved by the FDNY Director of Radio Repair Operations or his designee.

10.5 Siren/Public Address System: As per KKK 3.14.4+

- Install in each vehicle delivered a Federal Signal Corp. Electronic Siren/PA, Model #PA4000/NY, Speaker and a noise canceling microphone for the PA function. including two (2) Federal MS100 with custom through bumper mounting, cast products inc, Housings shall be specific for vehicle and federal signal driver speakers.

- The siren speakers shall be installed utilizing factory supplied hex mounting bolts/screws. The siren speaker and housing shall be mounted in such a way that it can be removed/replaced in a rapid manor from the front of the vehicle without having to crawl underneath the vehicle or reach behind the bumper. The bumper and or mounting shall be threaded to alleviate a rear nut for the mounting bolts. Final mounting design to be approved by the FDNY Director of Radio Repair Operations or his designee.

- Speaker wires shall be #16 AWG copper stranded, and connected to the speaker/driver terminals using two (2) #250 Amp. Faston plastic-grip receptacles. Wires shall be connected into the siren control module mounted in the radio compartment, as directed.

- The siren shall be wired to a 12 volt feed in the radio compartment labeled “12 VDC Siren”. The “Yelp” mode shall be wired to the horn control. A rocker switch shall be installed on the dashboard to switch the horn ring between siren and OEM horn. All related wiring shall be enclosed in a protective type conduit as described in detail within this section.

- Audio levels in all modes of siren operation shall comply with all applicable NYC Local Laws and Noise Restrictions

- All Siren equipment shall include a one (1) year, minimum, 100% Parts and Labor Warranty.

10. Two-Way Radio Specification (Continued):

MISCELLANEOUS

- In order to ensure the correction of any communications equipment related problems that are, or appear to be vehicle related, the Prime Vendor shall work with diligence and good faith with the FDNY, or FDNY's designee, to expeditiously resolve communications equipment or software problems.
- Due to FDNY's unique equipment configurations, all Motorola Radio and Mobile Data Computer (MDC) equipment as well as programming hardware and software must be purchased through the Motorola Solutions, Inc. NYC office, 335 Adams Street, Brooklyn, NY 11201, Attention: Jack Devereaux, (201) 388-0565. Motorola Solutions developed the special product part numbers used for their products in this section and may be accessed as a reference to obtain these radio components.
- All Equipment shall be installed by a Motorola Solutions certified installer. This installer must be approved by FDNY Radio. If the original installer is not located in the NYC metropolitan area, a second Motorola Solutions certified installer must be identified and approved by FDNY Radio for after installation support and service that is within the NYC metropolitan area.
- Acceptance of Ambulance prototype shall not be deemed complete until the electrical load test is completed successfully with all communications equipment installed and operating properly.
- All communications equipment, including the Siren/PA shall include a one (1) year parts and labor warranty. The warranty period will begin upon acceptance of the vehicle by FDNY Fleet services and not based on vendor date codes or delivery dates. All non used items that were supplied by the manufacture from any radio equipment provided under the specification shall be dropped shipped to FDNY Radio Shop. All equipment shall be delivered to the FDNY Radio Shop.
- If approved by the FDNY Director of Radio Repair or his designee, the vendor shall place any unused items supplied by the manufacture for any radio related equipment into a box labeled "FDNY Radio Repair" and left in the vehicle for the radio shop to recover upon receiving the vehicle. Items whose value exceeds $100 each, or whose combined value exceeds $300 shall not be delivered in this manner but delivered in a secure manner.
- All delivered equipment shall include packing slips that reflect the Model Number(s), Serial Number(s), Purchase Order Numbers, Contract number(s) and the line item of the purchase order for the individual item or product. Any FDNY approved changes to equipment delivered shall include clear information stating the Purchase Order item line number, the equipment that was originally specified and the complete information on the replacement item. It is the contractor's responsibility to make sure that all line items are referenced to FDNY's satisfaction.

10. <u>Two-Way Radio Specification (Continued):</u>

SERVICE MANUALS, TRAINING, AND RELATED MATERIALS

1. Basic and Detailed Service Manuals and Installation Manuals for Communication Equipment

    a. A minimum of One (1) Basic Service Manual, One (1) Detailed Service Manual and One (1) Installation Manual, complete with parts listing, schematics and wiring diagrams shall be provided. For every ten (10), or part thereof, an additional One (1) Basic Service Manual, One (1) Detailed Service Manual and One (1) Installation Manual, complete with parts listing, schematics and wiring diagrams shall be provided. The first three (3) sets shall be delivered one week prior to the receipt of the first vehicle to the FDNY Radio Shop.

2. Operation Manuals/User Guides

    a. One (1) Operation Manual/User Guide shall be provided for each equipment installation performed under this contract. Operations Manuals shall be provided to assist in the instruction of EMT on the operation of this equipment. The Operations Manuals shall only describe the operation of the equipment as configured for FDNY and not include references to features and operations not used by FDNY. Generic manufacturer/OEM descriptions and/or documentation are not acceptable.

3. Training

    a. Contractor shall provide instructor-led manufacturer's training on all radio, MDT, and radio support equipment used in this vehicle. Training shall be done at a FDNY Facility located within the five boroughs of the City of New York. The instructor shall be certified by the manufacturer to conduct the training.
    b. Training shall be for (2) sessions of (12) Radio Mechanics, each session scheduled separately, at the convenience of the FDNY Radio Shop, for each product. Training shall cover all aspects of the diagnostics, servicing, maintaining, repairing, troubleshooting, and programming as needed for the equipment delineated in these radio specifications.
    c. Motorola Solutions, Inc. NYC office, 335 Adams Street, Brooklyn, NY 11201, Attention: Jack Devereaux, (201) 388-0565 can be contacted to facilitate training arrangements form Motorola products.

10. Two-Way Radio Specification (Continued):

WARRANTY:

1. Equipment and Installation

1A. All radio and electronic equipment installed and/or furnished under this contract shall carry the manufacturer's standard guarantee for Government and/or Municipal Agencies. But in no case, shall it be less than one (1) year **after vehicle acceptance.** Warranty shall cover both labor and parts.

Note: Upon award, if any electronic equipment make or model number listed in this specification is no longer available, substitution may be permitted. The awarded vendor shall supply written documentation to the Director of Radio Repair via Fleet Services (Send to Supervisor of Apparatus Design as noted below). The documentation shall include, but not be limited to: a listing of the former and replacing part/model #, the reason for the change, and the cost difference (if any) between both units. Failure to provide detailed information may result in non-acceptance.

Any questions regarding the communication equipment or its installation requirements should be directed to:

Director of Radio Repair Operations
FDNY Radio Repair Operations
58-65 52nd Road
Woodside, NY 11377
Telephone Number: 718-505-3003

In addition, a copy of all correspondence shall be sent to:

Supervisor of Apparatus Design Unit
FDNY Fleet Services
48-58 35th Street
Long Island City, NY 11101
Telephone Number: 718-784-6512

11. Paint:

11.1 Preparation For Painting: As per KKK 3.16.1+

- For corrosion protection, the Module, only, shall be undercoated, after FDNY pilot inspection, per OEM guidelines with "Tectyl™ 127CG" material. There shall be no undercoating added to the chassis.

11.2 Color, Paint And Finish: As per KKK 3.16.2+

- OEM colors, paint technology and exact paint break line shall be approved by FDNY.
- The vendor shall submit paint sprayouts to FDNY for approval.
- Lower Exterior Cab: This shall include everything from the lower windshield edge lines down including cowl and inside door jams. Sikkens™ **Red** # 407F4, or equal, or closest OEM color.
- Upper Exterior Cab: This shall include the roof from lower windshield edge up. Sikkens™ **White** # FLNA4002, or equal, or closest OEM color.
- Body Module**:** Same colors as the cab. Paint break line shall follow cab line around body module.
- Wheels: All wheels including any spares provided shall be painted **white**. Paint thickness at the mounting surfaces shall be three (3) mils, maximum (including any spare wheels supplied).
- **NOTE: ALL HIDDEN CORNERS, EDGES, AND REVERSE SIDES/BACKS SHALL BE PRIMED AND PAINTED AS DIRECTED BY FDNY.**
- Touch up Paint: One (1) bottle of **red** and one (1) bottle of **white** touch up paint shall be supplied with each vehicle delivered. Touch up paint shall be the same paint brand and color code as originally applied on the vehicle. Each bottle shall have a built in brush applicator.

11.3 Color Standards And Tolerances: As per KKK 3.16.2.1

11.4 Salt Spray Resistance: As per KKK 3.16.3

12. **Graphics:** Emblems and Markings: as per KKK 3.16.4+

12.1 FDNY graphics shall be applied to vehicles as directed by FDNY. ***

QUANTITY	SIZE	COLOR	**** DESCRIPTION
2	13”	FULL COLOR	FDNY Official Licensed Logo – One each side of front cab doors @
2	9”	FULL COLOR	FDNY Official Licensed Logo-One each side of Module rear doors @
1	22”	**RED**	F.D.N.Y Decal – On Module roof
2	10”	**RED**	F.D.N.Y Decal – Each side of Module
2	6”	**RED**	F.D.N.Y Decal – Front and Rear of Module
1	36”	**BLUE/WHITE**	Star of Life – On roof
2	17”	**BLUE/WHITE**	Star of Life – Each side of Module
2	13”	**“ETCHED STYLE”**	Star of Life – Each rear Module door
2	4”	**BLUE/WHITE**	Star of Life – On hood
3	6”	**RED**	“AMBULANCE” – Both sides and rear of Module
1	4”	**RED**	“AMBULANCE” – **Mirror Image**. On hood
1	4”	**WHITE**	“KEEP BACK” Decal - Rear Module doors
4	4”	**BLUE**	Vehicle Number – location as directed by FDNY
1	12”	**BLUE**	Vehicle Number – on roof as directed by FDNY
1	Size TBD at Precon	**Color TBD at Precon.**	Height Decal- **Mirror Image**
As Required	Size TBD at Precon	**Red, Orange, and White**	“BUCKLE UP” Seat Belt Decals
3	1”	**WHITE OR RED**	Fleet ID # - as directed by FDNY
As Required	2”	**RED/WHITE**	3M™ Diamond Grade Conspicuity Tape – As directed by FDNY
As Required	Size TBD	**RED/WHITE**	“Chevron” style safety pattern. Applied to lower rear body below paint break line – as directed by FDNY.

12. **Graphics:** Emblems and Markings: as per KKK 3.16.4+ (Continued):

12.1 FDNY graphics shall be applied to vehicles as directed by FDNY. ***

QUANTITY	SIZE	COLOR	**** DESCRIPTION
As Required	2-1/2"	**GOLD**	680 Series striping shall be installed around front cab, and both sides of the Ambulance. Start top stripe 5" below top of Module **RED**. There shall be a 4" gap between the lower edge of top stripe and upper edge of bottom stripe.
As Required	2-1/2"	**YELLOW**	980 Series striping installed on the rear of the Ambulance. Start top stripe 5" below top of Module **RED**. There shall be a 4" gap between the lower edge of top stripe and upper edge of bottom stripe
As Required	2-1/2"	**WHITE**	680 Series striping shall be installed around front cab, and both sides of the Ambulance. Stripe centered between the **GOLD** stripes maintaining a ¾" gap.
As Required	2-1/2"	**WHITE**	980 Series striping shall be installed on the rear of the Ambulance. Stripe centered between the **YELLOW** stripes maintaining a ¾" gap
2	2.35"H x 21"L	**Black Reflective**	NYC website decal: www.nyc.gov/fdny Helvetica Medium., 3M "680" Series
2	TBD	**Red, White and Blue Reflective**	"Waving Style" American Flag decals

All materials listed above shall be 3M Scotchlite® as follows**:**

680 Series Material: •**WHITE** (3M 580-10) •**GOLD** (3M 580-64) •**RUBY RED** (3M 580-82)

980 Series Material: •**WHITE** (3M 983-10) •**YELLOW** (3M 983-71) •**RED** (3M-983-72)

• DIAMOND GRADE SERIES 980 Conspicuity Tape

@ This decal shall be three (3) color silk screened on 3M 680 Engineer Grade Reflective white vinyl. All inks shall be Scotchlite® compatible and non-face. Logo shall have Gerber UV Guard™, or equal, over seal and be pre-masked.

PLEASE NOTE:

All graphic, application and detail shall be approved by FDNY and completed prior to delivery acceptance. Contact FDNY Fleet Services Graphics Unit at 718-571-7625 for questions on font type and style only.

NOTE: All graphics shall be created using high resolution and high quality computer generated artwork. The vendor shall provide scalable electronic copies of all logos in addition to printed approval drawings for final approval by FDNY.

****Note: Location of all graphics subject to FDNY approval.**

12. Graphics (Continued):

12.2 Markings, And Caution And Identification Plates: As per KKK 3.17+

- A sign with one-inch (1") **black** letters with a **yellow** background stating, "NO SMOKING-OXYGEN EQUIPPED" conspicuously placed in the patient compartment (molded plastic). Final location shall be approved by FDNY.

- A **yellow** background sticker with one-inch (1") **black** lettering stating: "FASTEN SEAT BELTS-ADJUST MIRRORS" shall be installed.

- A sign stating "NO SMOKING" shall be installed in the cab area. Final location shall be approved by FDNY.

- An overall height placard shall be provided in the cab. Design and location shall be approved by FDNY.

- Tire inflation placards shall be provided over each wheel position. Design and location shall be approved by FDNY.

- A permanent engraved placard shall be installed in a location directed by FDNY stating the quantity and type of all fluids used in the vehicle. This placard shall contain the paint and tire inflation information. Design and final location shall be approved by FDNY.

- The vehicle shall have a placard easily visible to the operator that states, "DO NOT SHUT THE ENGINE OFF WHEN THE DEF LAMP ILLUMINATES. REDUCED ENGINE POWER WILL RESULT".

- Except for chassis manufacturer's identification, no end-stage manufacturer, distributor, dealer, or agent nameplate/decal shall be affixed to the completed Ambulance.

13. Books and Manuals:

13.1 Manuals And Handbook Of Instructions: As per KKK 3.18+

- All books and manuals shall be original printings. Photostat or fax copies are not acceptable. Hard copy manuals shall be in three (3) ring binder format for ease of updating. Updates/revisions for all formats shall be provided to FDNY as soon as they are available from the manufacturer. If CD discs are available in addition to hardcopy manuals, both formats shall be provided. If a requested format is not available, then the vendor shall supply an FDNY approved substitute.

- The following documentation shall be Delivered to FDNY. All manuals shall be "as built".

- Schematics / Diagrams shall be scalable and properly sized to print correctly on the current in use FDNY Fleet Services plotter printer so that they can be readily replicated as needed. Further details shall be discussed at the preconstruction conference.

1. A complete set of the following (with individual price break down for each item):

   A. Manufacturer's complete operating and service manuals and warranty information for the various components and accessories supplied with the vehicles

   B. Detailed procedures for the operation and service of the entire vehicle, including the removal and replacement of the cab bellows.

   C. All applicable chassis OEM Shop Manuals including, but not limited to:

      - Powertrain, Control/Emissions Diagnosis, Fuel System, Chassis Electrical Diagram/Schematics, Vacuum System Diagrams, Trouble Shooting Guides and Flow charts (Twenty per model year)
      - Twenty Chassis Owner's manuals per model year and one warranty card per vehicle.

13. Books and Manuals (Continued):

13.1 Manuals And Handbook Of Instructions: As per KKK 3.18+ (Continued):

D. OEM parts books and CD if available (Ten per model year). Parts books shall include an interchange between the OEM part number and the manufacturer's/supplier's part numbers. In addition, a parts price list shall be supplied.

E. Biomedical and Locksmith Parts books for all assemblies and components installed or provided with vehicle(s). The vendor shall provide five (5) per model year. OEM Part numbers shall be detailed in addition to the conversion vendor's numbering.

F. Complete biomedical schematics detailing exact locations of all oxygen and vacuum system plumbing, fittings, and fixtures. The vendor shall provide five (5) per model year.

G. The vendor shall provide two (2) operators manuals with each vehicle which contain, clearly reproduced, photographs and diagrams describing the safe and correct operation of each system, component, switch, and control including, but not limited to:

H. Complete procedures relating to the operation and servicing of the chassis (i.e., vehicle fluids, tires, and gauges).

I. Complete information outlining the functions and proper operation of all systems, controls, switches, components and accessories used to fully operate the vehicle.

Note: If the above mentioned manuals are available in both electronic format and printed format, BOTH shall be supplied. If either format is not available for a given manual, then the vendor shall supply an FDNY approved substitute.

14. Ambulance Acceptance Testing and Inspection:

14.1 Quality Assurance Checks And Inspection: As per KKK 4.0+

- Prior to award of the contract, the vendor shall provide a complete and detailed durability testing procedure including a detailed description of the road test procedure.

- The construction of the Module body shall be fabricated to provide an extended body life, highest load capacity, and premium safety features. In addition, the Module design shall allow a new chassis to be retrofitted. Prior to award, the vendor shall submit a RPE certified letter verifying the ability to retrofit a new chassis within the same chassis year. All Module body frame and skin materials, unless otherwise specified, shall be fabricated from aluminum.

14. Ambulance Acceptance Testing and Inspection (Continued):

14.2 Responsibility For Inspection And Tests: As per KKK 4.1+

- All inspection and testing shall be in accordance with: FDNY Specifications, Applicable Federal KKK Specifications, Applicable New York State Department of Health Regulations, 10 NYCRR Part 800, Federal Motor Vehicle Safety Standards (FMVSS), and FDNY testing criteria.

- After the award, the vendor and the FDNY shall establish a series of manufacturing milestones. FDNY shall schedule planned site visits to review manufacturing practices and materials against the requirements of the specification. This site visit shall be a two (2) day inspection exclusive of travel to/from the vendor's facility.

- FDNY utilizes a multi-stage inspection process. Representatives of the City of New York shall make three (3) site visits, at the following times:

    1) Completion of module skeleton.

    2) Mounting of module. At this time, two chassis shall be provided for inspection: one (1) without a module installed and one (1) with a module installed.

    3) Console construction. In addition, at this third inspection, a full functional check of the radio equipment shall be made. In addition, all items discussed at the previous two inspections shall be corrected.

Note: These inspection schedules are subject to revision by FDNY and/or DCAS.

- At the conclusion of these inspections, the City of New York/FDNY shall notify the vendor, in writing, of any deficiencies. Failure of the vendor to promptly correct deficiencies noted during inspection shall be cause for suspension of the vehicle inspection. The vendor shall cover all re-inspection costs. However, failure of the City of New York/FDNY to note any deficiencies shall not in any way relieve the vendor's responsibility for compliance.

- FDNY and/or DCAS shall retain the right to conduct an inspection whenever there are changes in the chassis design or other critical design parameters of vehicles ordered on this contract. The need for such inspections shall be at the determination of FDNY and/or DCAS.

14. Ambulance Acceptance Testing and Inspection (Continued):

14.3 Purchaser Verification: As per KKK 4.1.1+

- The vendor shall perform pre-delivery quality assurance tests. The vendor shall certify each vehicle delivered meets or exceeds all requirements detailed in the specification. The vendor shall supply a complete quality assurance checklist for each vehicle delivered. The vendor shall supply an example of their quality assurance forms upon request. The vendor shall correct any deficiencies discovered in quality assurance testing prior to delivering any vehicle to FDNY for acceptance.

14.4 Pre-Delivery Inspection And Servicing: As per KKK 3.19

14.5 Workmanship: As per KKK 3.20

14. Ambulance Acceptance Testing and Inspection (Continued):

14.6 Quality Conformance Inspection: As per KKK 4.2.1 +

- All testing shall be in accordance with KKK and this Specification.

- The vendor shall hire a certified independent third party testing facility, as approved by NYC/DCAS and FDNY, to perform and certify all testing detailed in Federal KKK specifications on the prototype. The vendor shall supply FDNY the name, address, and contact information of the testing facility chosen. The prototype shall be delivered to a FDNY designated location for inspection and testing for a maximum of forty-five (45) calendar days. Upon completion of the testing and acceptance by the FDNY after necessary modification as designated below, the vendor shall use the prototype vehicle as a model for the production line. The vendor shall incorporate all FDNY approved changes onto the prototype and incorporate them into the production line manufacturing. The prototype shall be the last vehicle delivered under that model year.

- Following completion of the first prototype vehicle inspection, City of New York/FDNY shall meet with the vendor to review the inspection results and identify corrective actions or modifications. Following the meeting, the vendor shall promptly correct all deficiencies and modifications. Failure of the vendor to promptly correct all deficiencies or modifications shall constitute, at City of New York/FDNY option, cause for termination of the contract. Upon satisfactory completion of all Prototype vehicle testing and inspections, FDNY shall issue a formal letter of acceptance. Formal FDNY acceptance of the prototype shall serve as authorization to commence the Ambulance production line.

14. Ambulance Acceptance Testing and Inspection:

14.7 Operation Checks: As per KKK 4.2.2

14.8 Inspection Failure Of Ambulance(s): As per KKK 4.2.3+

- If a production vehicle is not in accordance with the prototype model, as modified or with any improved modification, the vendor shall take appropriate action to correct the failure and resubmit the vehicle for re-inspection. In the event a production vehicle fails repeat inspection and testing, FDNY at its option, may require additional corrective action, re-testing and re-inspection (at the expense of the vendor), or may reject the vehicle. If a vehicle is rejected, the vendor shall supply a new vehicle in its place.

- The vendor shall reimburse FDNY to cover actual re-inspection and re-testing costs per vehicle. The vendor shall be responsible for all transportation costs to and from the inspection site.

14.9 "Star Of Life" Certification Requirements: As per KKK 4.3

14.10 Qualifying Provisions: As per KKK 4.3.1

14.11 Documentation Of "Star Of Life" Certification: As per KKK 4.3.2

- Every Ambulance shall have "Star of Life" Certification in accordance with KKK

14.12 Criteria Of Certifications: As per KKK 4.3.3

14.13 Certification Letter Format**:** As per KKK 4.3.4

14.14 Certification Verification Data Reports: As per KKK 4.3.5

14.15 Test Criteria: As per KKK 4.4.1+

- The vendor shall certify each vehicle is compliant with KKK, with any and all exceptions noted. Pertinent documentation shall accompany each vehicle upon delivery

15. Delivery Schedule:

15.1 Preparation For Delivery: As per KKK 5.1+

- Delivery preparation: Before final acceptance by FDNY, a complete preventive service and maintenance inspection shall be performed on each vehicle delivered. A written checklist shall be provided for each unit and supplied upon delivery.

  This preparation/inspection shall include but not be limited to:

  - Wash and clean the entire vehicle
  - Change engine oil and filter
  - Check and top off all fluids
  - Change fuel filter
  - Inspection of brakes at each wheel position
  - Check tightness of wheel nuts and body mounting bolts – Retorque if necessary
  - Check operation of all electrical devices, systems, and lights
  - Check and correct air pressure in all tires
  - Correction of any / all deficiencies

15.2 Government /Purchaser Responsibility: As per KKK 5.2

15. Delivery Schedule :

15.3 Delivery Schedule Time Frame: Shall be as follows:

GENERAL PLANS AND DATA…….. DAYS* 30

PILOT MODEL, WITH …….. DAYS*…. .210…..
CERTIFICATION APPROVAL, INSPECTION

FIRST COMPLETE UNIT ONE HUNDRED TWENTY (120) DAYS THEREAFTER

TWO (2) **UNITS PER WEEK THEREAFTER UNTIL COMPLETION**

DELIVERY OF ANY ADDITIONAL PURCHASE ORDERS PLACED ON THIS CONTRACT SHALL START THIRTY (30) **DAYS AFTER COMPLETION OF THE PRECEDING ORDER, AT THE RATE OF FIVE UNITS** (5) **PER MONTH**

*** CALENDAR DAYS OF THE PERFORATED DATE OF THE MULTI-PART CARBON INTERLEAFED PURCHASE ORDER OR FOR ELECTRONIC SYSTEM-GENERATED PURCHASE ORDERS, THE PRINTED DATE THAT THE ORDER WAS ACCEPTED INTO THE CITY'S FINANCIAL MANAGEMENT SYSTEM (FMS).**

NOTE: LIQUIDATED DAMAGES ARE IN EFFECT FOR ALL ITEMS OF THIS BID SCHEDULE:

Note: Liquidated damages shall be in effect for the sum of one hundred dollars ($100) per day for each vehicle delivered after the contract delivery due date as stated above.

15. Delivery Schedule :

15.3 Delivery Schedule Time Frame: (Continued):

Note: If the vendor is late in delivering the apparatus, this additional time shall be added to the warranty.

Example: If the vehicle has a five (5) year warranty and is delivered thirty (30) days late, then the vehicle warranty shall now be five (5) years and thirty (30) days in length.

Not withstanding any provisions contained in this contract, the New York City Fire Department, in conjunction with, and the approval of the City of New York, Department of Citywide Administrative Services, may adjust the delivery schedule based on pilot inspections or changes/amplifications in the specifications. This provision shall also apply to engineering changes required for compliance with applicable KKK standards or Federal, State or City Motor Vehicle Safety Standards.

15. Delivery Schedule :

15.4 Delivery Requirements:

- DELIVERY: If the prime vendor fails to have the vehicle delivered within the time frames established herein then the prime vendor shall be subject to fixed and liquidated damages.

- WARRANTY: The vehicle and equipment covered by the warranties are of vital importance to the City of New York / FDNY in providing a heightened level of preparedness and emergency services to the public. All major warranty repairs on an out of service vehicle shall be completed within thirty (30) working days of vendor notification by FDNY. If the warranty work extends beyond thirty (30) days, then the warranty period shall be extended for thirty (30) days **plus** any additional time that the vehicle is at the vendor for repair. The vendor agrees to pay and acknowledges that FDNY shall have the right to withhold from any monies due the vendor (in the form of liquidated damages for the sum of $100 per day), for each vehicle or piece of equipment on which the warranty work has not been completed and approved by FDNY within thirty (30) working days. Working days shall include Monday through Saturday inclusive. It is the responsibility of the vendor to notify FDNY Fleet Services upon completion of such work. FDNY shall make all determinations as to when a vehicle/apparatus is out of service. FDNY reserves the right to assess liquidated damages through either existing parts or current / future apparatus contracts.

- The vendor shall attend conferences and meetings as scheduled by FDNY and DCAS. The conferences and meetings shall be called to review the Ambulance requirements, production, design, operation, and planning. The vendor may be called upon throughout the project term to be present for field visits, product reviews, and consultation meetings, at no additional charge.

16. Warranty:

16.1 Warranty Coverage**:** As per KKK 6.2.1+

- **The warranty periods for each vehicle shall commence upon individual assignment to a battalion. FDNY shall notify the vendor of the "put in service" date.** The vendor shall provide a set of all warranty information with each delivered vehicle. All warranties shall be 100% parts and labor. If extended warranties are necessary

Note: If any warranty period (time or mileage) for a manufacturer's system, component or part is longer than the terms stated this specification, then the manufacturer's longer warranty period shall be in effect for the covered system, installation, component or part.

- **Bumper-to-Bumper Warranty: All components of the Ambulance (except normal wear items) shall be covered bumper-to-bumper for a period of two (2) years, minimum.**

- **Powertrain Warranty: The power train shall be covered by an OEM warranty for a minimum of 5 years/150,000 miles, regardless of engine hours. The transmission shall be covered by the longest warranty offered by the OEM.**

- **Electrical System: For a period of five (5) years, the electrical systems and wiring shall be free from defects in material and workmanship.**

- **LED Lighting: Shall be covered by a ten (10) year manufacturers warranty, (parts / light-heads only). Physical replacement of led lights shall be included the bumper to bumper warranty noted above. After the bumper-to-bumper warranty expires, the prime vendor shall supply the parts free of charge and FDNY shall be responsible for physical replacement.**

- **Cabinet/Compartment Warranty: For a period of five (5) years, minimum, that the Module structure and all cabinets/compartments shall remain secured and shall operate in accordance with its intended use or manufacturer's published specification or better.**

- **Module Warranty: The module/body shall have a five (5) year minimum warranty against all air and water leaks, structural deformation, cracking or defects. Note: If it becomes necessary to mount the module to a new chassis, the module warranty shall remain in effect.**

16. Warranty:

16.1 Warranty Coverage: As per KKK 6.2.1+

- The aforementioned warranty provisions shall survive the expiration of the agreement if the repairs were performed less than ninety (90) days from the expiration date. After completion and acceptance of these repairs, the prime vendor shall furnish a ninety (90) day warranty (100% parts and labor) covering the following:

  ° Repairs
  ° System Additions/Modifications
  ° Installed components/equipment or parts

  Example: The vehicle's warranty is set to expire on January 30th. On January 1st, the vendor replaces a part under this warranty. This repair shall then have a warranty for ninety (90) days starting on January 1st.

16.2 Domestic Use: As per KKK 6.2.1.1

16. Warranty (Continued):

16.3 Repair Parts And Service: AS PER KKK 6.3+

- Prime vendor shall provide a supply of parts for all automotive, biomedical, and locksmith products used in the construction of the Ambulance for seven (7) years, minimum, upon completion of contract. The FDNY is not obligated to purchase any additional equipment from the prime vendor. Prior to delivery of the first vehicle the prime vendor shall supply a parts book listing all OEM part numbers cross referenced to prime vendor part numbers, if different. The vendor shall provide details of the parts book at the final inspection.

- If the vendor fails to pick-up, complete and repair all minor and major warranty work in the established time frames, then the vendor shall be subject to fees listed in the Liquidated Damages section of this specification.

- The vendor shall provide a minimum of two (2) full-time service centers in the New York City Metropolitan area (defined as within a fifty (50) mile radius of FDNY Fleet Services in Long Island City, NY 11101), to perform warranty and routine Ambulance systems' repair work (exclusive of OEM chassis manufacturer).

    - Vendor shall provide the following information prior to award:
        - ° Company name
        - ° Address
        - ° Telephone number
        - ° Chief Executive Officer
        - ° Number of years as a full service warranty repair agent for vendor
        - ° Description of the facility and repair capabilities

    - Detailed "letter of intent and authorization to service" from three (3) certified Ambulance service centers and three (3) authorized OEM diesel chassis dealers within a 50 mile radius of FDNY Fleet Services in Long Island City, NY 11101. These letters shall detail all of the above noted information and state that these agents are fully authorized and certified to service the Ambulances purchased under this contract. In order to maintain a high level of "in service" vehicles, the servicing dealer shall be FDNY's choice. This shall be provided with the vendor's bid.

16. Warranty (Continued):

16.3 Repair Parts And Service: AS PER KKK 6.3+

- The warranty agents shall have a minimum of least two (2) years experience before the contract award.

- The warranty agent shall have the facilities and capabilities to provide on-site services for both minor and major warranty repairs.

- FDNY shall notify the prime vendor if any repair or installation is not in good working order during the warranty period.

- The prime vendor shall either repair or replace any equipment, installation or component part not in good working order, without charge to FDNY, within the time frames established in sections above.

- Repair or replacement installations or component parts shall be new or equivalent to new in performance.

- The prime vendor is obligated under the warranty to repair, or replace, at FDNY's sole option, any defective item or equipment, installation, or component part, pursuant to the warranty. The prime vendor shall be FDNY's point of contact for all warranty issues.

- The prime vendor shall bear the cost of all expenses required to meet its obligations under the warranty.

16. Warranty (Continued):

16.3 Repair Parts And Service: AS PER KKK 6.3+ (Continued):

- The prime vendor shall be responsible for all costs associated with the pick-up and delivery of all vehicles needing warranty repair service for the duration of the coverage period. The means of transportation shall be in accordance with the standards specified by FDNY.

- Any items of equipment or component parts furnished under warranty repair work are automatically covered by the pre-existing warranty.

- After each repair, the prime vendor shall furnish a warranty report to FDNY. The report shall include but not be limited to the following information:

  ° Type of work performed
  ° Parts used for repair
  ° Type and number of labor hours expended

- Due to "around the clock" operation of the Ambulance, FDNY reserves the right to conduct emergency repairs on all systems and components. For any Emergency repair, FDNY shall be compensated seventy-five ($75.00) dollars an hour plus parts. Emergency warranty repairs shall be done at the sole discretion of the FDNY. If emergency repairs are completed by the FDNY, they shall not void OEM or any other component warranty.

- A holdback of 2% of the contract amount shall be retained for the warranty period to ensure compliance with the warranty provisions – vendor shall be reimbursed at the end of the warranty period if warranty service is satisfactory – all warranty periods commence on the FDNY "Put In Service Date" of each individual vehicle.

- A fleet defect is the failure of an identical component or system in more than one vehicle. Based on the number of vehicles purchased, the following failure ratios shall be used to determine whether a fleet defect exists, ratios based on individual contract model year:

  ° 2 to 10 vehicles delivered: 50%
  ° 11 to 30 vehicles delivered: 25%
  ° 31 to 49 vehicles delivered: 20%
  ° 50 or more vehicles delivered: 10%

- The prime vendor shall develop, subject to FDNY approval, a written plan to correct fleet defects. The time frame for the repair shall be agreed upon at that time. If the prime vendor does not perform the repairs in the time frame agreed upon, then liquidated damages will occur. All Ambulances purchased under this contract shall have these fleet defects corrected in the same manner and full documentation provided to FDNY.

16. Warranty (Continued):

16.3 Repair Parts And Service: As per KKK 6.3+ (Continued):

- All fleet defect repairs shall be warranted for a period of one year, minimum, after repair of said defect.

- Diagnostic Equipment: Computer units supplied shall be Panasonic Toughbook™ model # CF31, or latest updated model. Supply all OEM software, cables, modules, for engine, transmission and ABS systems diagnosis, troubleshooting and repair. The vendor shall supply ALL of the equipment necessary for FDNY to properly diagnose the vehicle. All software shall be most up to date model/edition at time of vehicle delivery, and include all necessary PIN #s and / or activation codes. Any software updates, upgrades and subscriptions shall be supplied for five (5) years.

- Spare parts: The option to purchase spare parts and equipment on this contract shall be at the discretion of FDNY at any time during the length of this contract. Refer to the DCAS bid package that accompanies this specification for further information on spare parts.

- All medical equipment, spare parts, and other loose items shall be bulk drop shipped as a complete order, no less than twenty (20) working days prior to the delivery of the first production Ambulance each model year. The vendor shall call at least forty-eight (48) hours prior to sending any bulk shipments. All bulk shipments shall be sent to the following address, unless otherwise directed by FDNY:

  NYC Fire Department
  Fleet Services
  55-30 58th Street
  Maspeth, NY 11378
  Phone: 718-571-7200

- The vendor shall label all shipments "AMBULANCE CONTRACT-ATTENTION: FLEET SERVICES." The vendor shall be responsible for replacing any products damaged during shipping.

- The vendor shall be responsible for the design, performance, and reliability of the vehicle. A Registered Professional Engineer (RPE) shall attest to all vendor drawings, schematics, blueprints, and other relevant or related items.

16.4 Statement Of Origin Or Bill Of Sale: As per KKK 6.4

16.5 Changes And Amendments**:** As per KKK 6.5

17. Training:

17.1 The prime vendor shall develop a plan to provide, Comprehensive, hands-on OEM drive train diagnostic and repair, Training. Prime vendor shall furnish, FDNY approved, Comprehensive Training Sessions within forty-five (45) days from the notice to proceed. All training shall be conducted at an FDNY designated facility. FDNY reserves the right to videotape and record all training sessions at the FDNY facility.

17.2 The prime vendor shall provide OEM drive train system manuals, part listings, diagnostic methods, typical and complex repairs, and a step-based repair methodology. Prime vendor shall furnish workbooks and training manuals at the commencement of each course.

17.3 Prior to award, the vendor shall submit a detailed narrative of the Comprehensive Training course. The narrative shall include but not be limited to the following:

- Required number of courses.
- Description of the provider organization.
- Detailed course description.
- Length of training session.
- Certified Approval from OEM.

17.4 All course instructors shall have teaching experience and first hand knowledge of the curriculum. Any instructor who, in the opinion of FDNY is not performing satisfactorily shall be removed from service under the contract within two (2) business days, pursuant to oral notification by FDNY. In such an event, the prime vendor shall supply a replacement instructor who has qualifications to perform the required tasks. The instructor may utilize a short film or video to supplement training. However, the medium shall not be used as a substitute for instructor training and hands-on demonstrations.

17.5 Course Administrator shall prepare and administer a proficiency demonstration at the end of each course, to measure the students' skills and knowledge of the subject material. The results shall be furnished in an electronic format to FDNY at the end of each course so that FDNY may review the proficiency of FDNY employees. Upon request of FDNY, prime vendor shall provide an on-site refresher course, at no additional charge, for any employee who fails to adequately demonstrate proficiency in the course skills.

17.6 Course Administrator shall design and distribute a course survey to FDNY Employees at the conclusion of each course.

17.7 The Course Administrator shall maintain time and attendance records for each FDNY employee attending the courses. The records shall be forwarded to FDNY upon the completion of each course.

17. **Training:**

17.8 All training sessions shall be given by factory trained personnel – FDNY personnel shall be instructed in the safe, efficient and correct use of all equipment.

17.9 The prime vendor shall arrange for and provide to FDNY the following training sessions:

- Twenty-four (24) hours for Fleet Service Mechanics. Training shall completely cover all aspects of operation, maintenance, adjustments, trouble-shooting diagnostics and P.M.I. for the complete vehicle, all systems and components.

- Twenty-four (24) hours Operators training - to completely cover all aspects of Module Operation: daily maintenance and checks, adjustments, trouble-shooting, diagnostics.

- All training shall be done at a FDNY facility located within the five boroughs of the City of New York. Contact for scheduling and location:

FDNY Fleet Services
55-30 58th Street
Maspeth, NY 11378
Attn: Director of Fleet Services
Phone: 718-571-7200

18. Requirements for Each Ambulance Delivered:

18.1 Additional Documentation: Documentation required by FDNY/DCAS shall be provided with seven (7) calendar days of DCAS/FDNY request unless otherwise noted in this specification. The manufacturer shall report any changes to the cab and chassis design to FDNY prior to the commencement of the contract. All requested documentation shall be submitted prior to award of the contract.

18.2 The following shall be provided for each Ambulance delivered under this contract in the time frames specified:

With the Vendor's Bid Package:

- Actual electrical system performance measurements shall be submitted prior to award, measured under the same conditions and displayed on a graph comparable to Appendix A. Note: Due to ongoing revisions during the build process, an updated schematic may be necessary. This shall be provided upon FDNY request.

Within Seven (7) Days of FDNY/DCAS Request:

- The vendor shall provide twenty (20) sets of "as built" production schematics and diagrams in binders. They shall incorporate all changes/modifications made before delivery of the first production vehicle. In addition, any subsequent changes made during the contract duration shall also be provided. Production vehicle wiring diagrams, schematics, and identification codes shall be updated as necessary, and drop shipped to FDNY.

18. Requirements for Each Ambulance Delivered (Continued):

Within Thirty (30) Days of Award of the Contract:

- Complete plans, electrical diagrams / schematics and label samples for all items in this specification.

- Two (2) sets of full dimension shop drawings, showing the complete chassis with the body and all accessories mounted – make and model numbers shall be indicated for all items – drawing shall show floor plan with locations of all required items and compartments.

- **Submit all plans and drawings only, do not submit other bid documents, to:**

New York City Fire Department
Apparatus Design
48-58 35th Street
Long Island City, NY 11101

Copies to: Bureau of Quality Assurance (BQA), Department of Citywide Administrative Services – submit all other bid documents as instructed.

Note: all documents shall indicate the bid number, item number and title of bid.

18. Requirements for Each Ambulance Delivered (Continued):

Prior to the Preconstruction Conference:

- **ELECTRICAL SYSTEM SUPPORT DATA:** Serviceability of the entire electrical system is important to the FDNY. To reduce the down time associated with servicing, the following information shall be provided prior to the pre-construction meeting for each model year:

  ° Electrical system operating instructions.
  ° Patient area Heating/AC schematic and parts list.
  ° Oxygen and Vacuum System schematic, parts list and leak check instructions.
  ° Battery and alternator schematic and system description.
  ° Radio communications installation instructions.
  ° Wire description list for vendor added wiring.
  ° Chassis OEM electrical schematics, diagrams and trouble shooting guides
  ° Individual, complete, schematics for all vendor added electrical circuits

Prior to Award:

- A full description including grade, thickness and tensile strength of the proposed material for the Module construction

- A fully detailed dimensional drawing of interior elevations, walls and floor plan which complies with New York State NYCRR, Part 800.

- Fully detailed dimensional drawings of all exterior elevations as it would appear when completed.

- Estimated curb weight calculation. Include specifics used to develop estimate.

18. Requirements for Each Ambulance Delivered (Continued):

Prior to Award (Continued):

- Details of any modifications to OEM components shall be provided.
- An outline of the use of gussets to strengthen the structural integrity of the patient compartment and include detailed drawings.
- Structural Integrity Verification: To ensure structural integrity of the above specified Module, the Module shall be subjected to quality assurance testing. The written test criteria used by the vendor shall be provided.
- Detailed drawings of Module mounting system and modular structural interface. Drawings should show any holes in the chassis frame and identify them as OEM or converter added holes. The vendor shall include a sample of each body mounting platform. If the same platform is used in more than one place, a single sample will suffice as long as it is so identified as being used in multiple locations.
- Based on the components contained in the specification which contribute to the electrical load; the vendor shall provide, in list form, the electrical load per component, calculate the electrical load per system and the total Module electrical load.
- Provide a pre-construction physical wiring diagram/schematic, including pigtail splice locations, actual layout and routing of cables, all connections and grounds
- A list of Ambulances built, in the last (5) years, with aluminum cabinets, or similar material, in use by a municipality
- CAD drawings and/or catalog cuts of the compartment structure, roll-up door, rollers, tracks(s), and latch mechanisms.
- A sample of the squad bench latch shall be provided.
- A detailed drawing of the securing system for the folding stretcher and squad bench. Describe the locking mechanisms, frame constructions, hinge details, and wall anchors.
- A description of the Heater/Air Conditioning, performance specifications, and dimensional drawings prior to award.

18. Requirements for Each Ambulance Delivered (Continued):

Prior to Award (Continued):

- Five (5) copies of the chassis OEM Body Builders Guide and any other pertinent body builder literature.

- One (1) complete, legible, set of "as built" vehicle schematics and wire coding for every two (2) vehicles delivered. In addition, the vendor shall provide hard bound, electrical wiring diagrams at the pre-construction meeting.

- A complete and detailed durability testing procedure including a detailed description of the road test procedure.

- Registered Professional Engineer (RPE) shall attest to all vendor drawings, schematics, blueprints, and other relevant or related items.

- The vendor shall submit a RPE certified letter verifying the ability to retrofit a new chassis within the same chassis year.

- An example of quality assurance forms shall be provided.

- Detail of the parts book shall be provided.

- Details of the Comprehensive Training Course. This shall include, but not be limited to the following:

    - Required number of courses.
    - Description of the provider organization.
    - Course description.
    - Length of training session.
    - OEM Certification of Course.

- Complete weld placement drawings for the entire vehicle including substructure, roof, side walls and all doors. Drawings shall show location and weld types, module cross section with weld placement noted.

- Provide a physical diagram of oxygen plumbing system.

18. Requirements for Each Ambulance Delivered (Continued):

Prior to Award (Continued):

- Provide a 10" sample of the body corner post extrusion that will be used in building the vehicle

- Provide a 10" sample of the body drip rail extrusion that will be used in building the vehicle.

- Provide a sample side access door constructed as per the specifications complete with, but not limited to all latches, handles, and interior liners. Door should be mounted in the exterior door jamb extrusion, ready to mount to body.

- Provide a sample finished 1' x 2' aluminum interior cabinet with sliding doors and all hardware as described in the specifications.

- Provide a sample main circuit board for the electrical distribution area including a sample of how the main wiring harness connects to the board (including, but not limited to plugs and connectors)

- Provide a sample of electrical circuit relay' connection/mounting

- Any required samples shall be submitted to:

  FDNY Fleet Services
  Apparatus Design Unit
  48-58 35th Street
  Long Island City, NY 11101
  Attn: Apparatus Design Unit Supervisor
  Telephone: 718-784-6512

Upon Delivery

- All manufacturers warranty documents, extended warranty documents and delayed warranty start forms shall be delivered to FDNY Fleet Services. All documents shall clearly specify the prime vendor's extent of liability.

  ° On single unit orders, these documents shall be provided prior to or at time of delivery

  ° On multi-unit orders, these documents shall be provided prior to or at time of delivery of pilot model

  ° Failure to comply with these requirements may result in refusal of delivery. **All warranty documents shall be completed by the prime vendor.**

18. Requirements for Each Ambulance Delivered (Continued):

Loose Equipment:

- Supply one (1) matching, mounted and balanced, spare tire and wheel for each vehicle delivered. NOTE: If the front and rear assemblies are different, one (1) front and one (1) rear shall be supplied for each vehicle delivered.

- Supply two (2) complete spare flashlight and charger kits shipped loose with each vehicle as detailed in section 8.

- The vendor shall provide and drop ship two (2) access panel opening tools, per vehicle, as detailed in section 2.

- A training video shall be provided covering the operation of the entire vehicle. Video chapters shall cover individual systems of the apparatus. Video layout and format shall be approved FDNY.

- Portable Style Global Positioning System (GPS): Garmin™ "1390LMT", or equal. The vendor shall supply the most current model available at the time of delivery. In addition, the model chosen shall be compatible with FDNY database software. Final installation shall be approved by FDNY.

18.2 Additional And Optional Equipment: As per KKK 3.15.1

18.3 Standard Mandatory Miscellaneous Equipment: As per KKK 3.15.2+

- Fire Extinguishers: Two (2) 5lb, minimum, refillable ABC aluminum canisters mounted in quick release brackets:

  ° One (1) mounted in the driver/cab section and accessible from outside the vehicle.

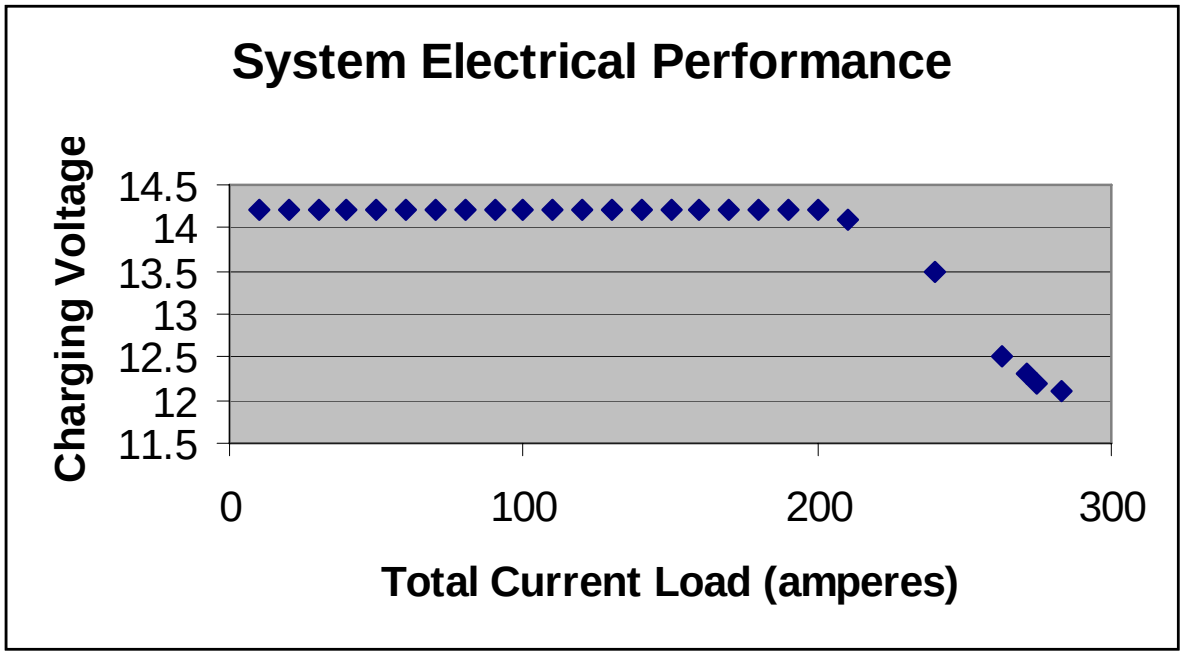
  ° One (1) mounted in the RH rear exterior compartment.

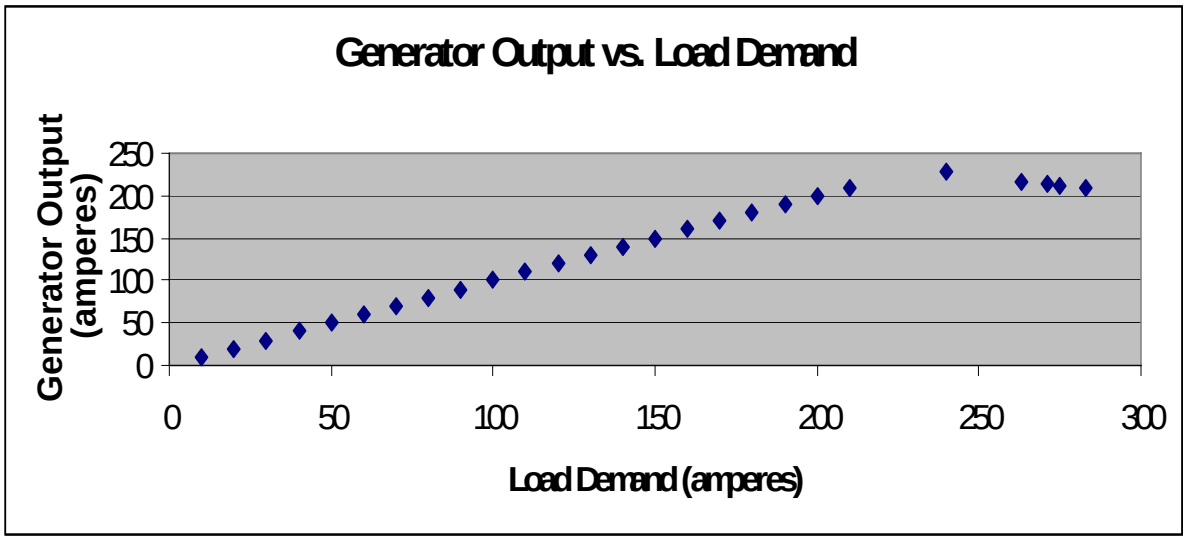
  ° Safety Vests: Three (3) Fire-Dex™ (330-723-0000) safety vests. Vests shall be the latest FDNY approved model, certified by D.O.T. and ANSI 107. Further details shall be discussed at the preconstruction conference.

  ° Provide a training video that shall cover the operation of the Ambulance. Video chapters shall cover individual systems of the vehicle. Video layout and format shall be approved by FDNY.

APPENDIX A (Note: Chart shown below is for reference only. The vendor shall provide a chart in this format and it shall accompany their bid)

Performance of the electrical generating systems on in-use Ambulances in the FDNY fleet.





APPENDIX B

Electrical current inventory for the electrical generating systems on in-use Ambulances in the FDNY fleet.

(Note: Chart shown below is for reference only. The vendor shall provide a chart in this format and it shall accompany their bid. It shall include, but not be limited to the following components:)

Current @ 14.2 volts	(amperes)
Chassis constant current	3.5
Module constant current	3.5
Front revolving light	14
Rear light bar	4.5
Primary lights (average)	25
Secondary lights	17
Scene lights - right	5.5
Scene lights - left	5.5
Rear loading lights	15
Parking lights	14.5
Headlights	25
Headlights, hi beam	35
Ignition on (after glow plugs)	11
Wipers, fast	4.5
Wipers, slow	3
Brake lights	11
Four way flashers (average)	13
Directional signals (average)	10
Reverse lights + backup alarm	14.5
Heater/AC blower, cab	25.5
Radio, transmit	61
Searchlight	12.5
Dome light, cab	1
Exterior doors +int. domes, hi	42
Exhaust fan	2
Vacuum pump/system	7
Module AC blower	34
Module Heater blower	14.5
Total Amperes:	434.50

Appendix C

Electrical Performance Test Protocol

This test is designed to simulate and measure a full electrical load under worst-case operating conditions.

1. The test vehicle is started with a full tank of fuel, and run at fast idle for at least two hours to achieve a high operating temperature. The vehicle shall be operated indoors, with the exhaust directed outdoors or to an appropriate collection system.

2. A second Ambulance shall be parked alongside the test vehicle, in a position where a set of battery cables can be connected between the vehicles. The second vehicle shall be used to create excess electrical load, to measure the "reserve" alternator capacity.

3. All electrical loads in the test vehicle shall be switched on (except the siren) and left on for two hours, to allow the engine, alternator, and all systems to reach a high, stabilized temperature. The air conditioners shall be run at high blower settings.

4. The maximum current draw for the entire system shall be measured, along with the current on each major branch of the system. The current shall be measured and recorded as each major component switched on, to obtain a record of each item's contribution to the total current. System voltage and alternator temperature shall be monitored and recorded as well.

5. To measure the excess charging capacity, all loads shall be switched on in the test vehicle, and the total load shall be increased by switching on loads in the second vehicle, with the electrical systems connected. The engine shall remain off in the second vehicle. The total current and system voltage shall be monitored to determine what total load causes the voltage to drop to 13.8 volts, 13.0 volts, and 12.0 volts.

Appendix D

RESOURCE LIST

TEPROMARK INTERNATIONAL, INC. 7518 N. ST. LOUIS #1047 SKOKIE, IL 60076 800-645-2622	COMPARTMENT FLOORING
LEECE-NEVILLE PRESTOLITE ELECTRIC, INC. WORLD HEADQUARTERS HEAVY DUTY SYSTEMS 46200 PORT STREET PLYMOUTH, MI 48170 734-582-7200	ALTERNATORS
MEDECO SECURITY LOCKS PO BOX 3075 3625 ALLEGHENY DRIVE SALEM, VA 24153 800-839-3157	LOCKS
ASSOCIATED EQUIPMENT CORP. 5034 FARLIN AVE ST. LOUIS, MO 63115 314-385-5178	BATTERY BOOSTER JACK
WHELEN ENGINEERING CO., INC. 51 WINTHROP ROAD CHESTER, CT 06412 860-526-9504	EMERGENCY LIGHTING

A.L. HANSEN MANUFACTURING CO. 701 PERSHING ROAD WAUKEGAN, IL 60085 847-244-8900	LOCK MECHANISMS
TURTLE TILE / TURTLE PLASTICS 7400 INDUSTRIAL PARKWAY LORAIN, OH 44053 800-756-6635	FLOORING MATERIALS
JEDCO, INC. PO BOX 9A ELKHART, INDIANA 46515 219-262-3431	SQUAD BENCH SUPPORT BRACKETS
ROLL-O-MATIC, INC. 6800 E. 163rd STREET BELTON, MO 64012-5463 800-827-3692	ROLL-UP DOORS
HOSE LINE 1619 PARK COMMERCE COURT ST. CLOUD, FL 34769 407-892-2599	AIR CONDITIONING
FLO-TEC INC 7625 WEST NEW YORK STREET INDIANAPOLIS, IN 46214 317-273-6960	OXYGEN EQUIPMENT
AIR LIQUIDE AMERICA CORP. MEDICAL PRODUCTS 9857 BACHMAN ROAD ORLANDO, FL 32824 407-856-6932	OXYGEN EQUIPMENT

LAERDAL MEDICAL CORP. 167 MYERS CORNERS ROAD WAPPINGERS FALLS, NY 12590 877-523-7325	SUCTION EQUIPMENT
IMPACT INSTRUMENTATION INC. P.O. BOX 508 WEST CALDWELL, NJ 07007 973-882-1212	SUCTION EQUIPMENT
INDIANA MILLS AND MFG 18881 US 31 NORTH P.O. BOX 408 WESTFIELD, IN 46074 317-896-9531	VEHICLE RESTRAINTS
ZICO ZIAMATIC CORPORATION 10 WEST COLLEGE AVE. YARDLEY, PA 19067 215-493-3618	OXYGEN RETENTION BRACKETS
FERNO-WASHINGTON 70 WEIL WAY WILMINGTON, OH 45117 877-733-0911	PATIENT TRANSFER EQUIPMENT AND RETENTION SYSTEM AND OXYGEN RETENTION BRACKETS
FEDERAL SIGNAL CORPORATION 2645 FEDERAL SIGNAL DRIVE UNIVERSITY PARK, IL 60466 800-264-3578	SIRENS SPEAKERS
MOTOROLA INC. 335 ADAMS STREET SUITE 700 BROOKLYN, NY 11201 718-330-2163	COMMUNICATIONS EQUIPMENT

THE CITY OF NEW YORK

F.D.N.Y. BIDDERS CERTIFICATE

THE DATA CONTAINED HEREIN IS FOR THE PURPOSE OF EVALUATING THE BIDDER'S INTENT TO MEET THE REQUIREMENTS OF THE SPECIFICATION - THE BIDDER CERTIFIES THAT THE PRODUCTS AND ITEMS SPECIFIED HEREIN ARE THE MINIMUM THAT WILL BE SUPPLIED - ACCEPTANCE OF THIS BIDDER CERTIFICATE DOES NOT RELIEVE THE VENDOR OF HIS OBLIGATION TO MEET REQUIREMENTS OF THE SPECIFICATION - ALL INFORMATION SUPPLIED HEREIN SHALL BE FROM CURRENT MANUFACTURER LITERATURE.

BIDDER MUST COMPLY WITH ALL MATERIAL REQUIREMENTS OF THE SPECIFICATIONS.

DO NOT LEAVE ANY BLANK SPACES – IF NOT APPLICABLE MARK N/A

CHASSIS:

MAKE_____MODEL_____ CAB TYPE _____

GROSS VEHICLE WEIGHT RATING (GVWR)_____

DIMENSIONS (INCHES), WITH MODULE INSTALLED :

OVERALL HEIGHT _____ OVERALL WIDTH_____

OVERALL LENGTH_____WHEELBASE_____CA_____

TURN RADIUS_____

ANGLE OF APPROACH_____ANGLE OF DEPARTURE_____

(Attach manufacturer's literature for the chassis to the bid, including a complete turning radius chart depicting all aspects of turning radius)

FRAME:

TYPE OF STEEL_____ MINIMUM YIELD STRENGTH _____

RESISTING BENDING MOMENT_____ INCH -LBS.

TYPE OF REINFORCEMENT_____

COMBINED RESISTING BENDING MOMENT_____INCH LBS

TERMINATING POINTS OF REINFORCEMENT: FRONT_____TO_____

ENGINE:

MAKE_____ MODEL_____

LITERS_____CUBIC INCHES_____

GROSS HORSEPOWER _____ @ RPM_____

GROSS TORQUE _____ @ RPM_____

TRANSMISSION:

MAKE_____ MODEL_____ # SPEEDS_____

MAXIMUM HP RATING_____ GROSS TORQUE RATING_____

ALTERNATOR: list all output ratings at engine rpm

Alternator #1:

MAKE _____ MODEL_____ MAXIMUM AMPS_____@ _____RPM

RATED OUTPUT TEMPERATURE RANGE_____ °F - _____ °F

_____AMPS @ 800 RPM _____AMPS @ 1500 RPM _____AMPS @ 2500 RPM

Alternator #2:

MAKE _____ MODEL_____ MAXIMUM AMPS_____@ _____RPM

RATED OUTPUT TEMPERATURE RANGE_____ °F - _____ °F

_____AMPS @ 800 RPM _____AMPS @ 1500 RPM _____AMPS @ 2500 RPM

(Attach detailed alternator information and charging curve to the bid).

ELECTRICAL:

BATTERY CCA_____ RESERVE CAPACITY_____MINS

BATTERY MANUFACTURER_____MODEL_____

FRONT AXLE:

MAKE_____ MODEL_____ OEM RATED CAPACITY_____ LBS

OEM DATA BOOK OPTION #_____

FRONT SUSPENSION:

RATED CAPACITY_____ LBS - TYPE SPRING_____

OEM DATA BOOK OPTION # _____

REAR AXLE:

MAKE_____MODEL_____

OEM RATED CAPACITY_____LBS.

SINGLE OR DOUBLE REDUCTION_____ RATIO (S)_____

OEM DATA BOOK OPTION #_____

REAR SUSPENSION:

RATED CAPACITY_____ LBS – TYPE SPRING _____

HELPER SPRINGS CAPACITY _____LBS – TYPE SPRING _____

OEM DATA BOOK OPTION #(S)_____

TIRES:

MANUFACTURER FRONT_____REAR_____

SIZE FRONT _____ REAR_____

TREAD TYPE FRONT _____REAR_____

LOAD RANGE/PLY RATING FRONT _____REAR_____

MAXIMUM LOAD FRONT_____LBS. AT _____PSI

MAXIMUM LOAD REAR_____LBS. AT _____PSI

BRAKES:

FRONT: MAKE_____ TYPE_____SIZE_____

REAR: MAKE_____ TYPE_____SIZE_____

ANTI-LOCK SYSTEM_____

MODULE BODY:

MAKE_____ MODEL_____

LENGTH_____WIDTH_____HEIGHT_____

(**Attach manufacturer's literature for body to the bid**)

VEHICLE DIMENSIONAL AND WEIGHT DATA, MODULE BODY INSTALLED:

CURB WEIGHT FRONT _____LBS.

CURB WEIGHT REAR _____LBS.

AVAILABLE PAYLOAD CAPACITY _____LBS

OVERALL WIDTH OF COMPLETED VEHICLE_____IN

OVERALL HEIGHT OF COMPLETED VEHICLE_____IN

OVERALL LENGTH OF COMPLETED VEHICLE_____IN

(The vendor shall attach a weight distribution diagram with their bid)

NOTE: Where any portions of the complete vehicle is to be installed by other than the bidder or chassis manufacturer (OEM) , the bidder shall indicate below the names of the entity/subcontractor performing such installation and the location of their facility.

(USE SEPARATE SHEETS IF NECESSARY TO LIST ALL SUBCONTRACTORS)

_____	_____
NAME OF BIDDER FIRM	SUBCONTRACTOR FIRM
_____	_____
ADDRESS	ADDRESS
_____	_____
ADDRESS	ADDRESS
( )_____	( )_____
TELEPHONE #	TELEPHONE #
_____	_____
PRINT NAME OF AUTHORIZED REPRESENTATIVE	PRINT NAME OF AUTHORIZED REPRESENTATIVE
_____	_____
SIGNATURE	SIGNATURE
_____	_____
TITLE	TITLE