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Bidder Complies	
Yes	No

SINGLE SOURCE MANUFACTURER

Bids shall only be accepted from a single source apparatus manufacturer. The definition of single source is a manufacturer that designs and manufactures their products using an integrated approach, including the chassis, cab weldment, cab, pumphouse (including the sheet metal enclosure, valve controls, piping and operator’s panel) and body being designed, fabricated and assembled on the bidder's premises. The electrical system (hardwire or multiplex) shall be both designed and integrated by the same apparatus manufacturer. The warranties relative to these major components (excluding component warranties such as engine, transmission, axles, pump, etc.) must be from a single source manufacturer and not split between manufacturers (i.e. body, pumphouse, cab weldment and chassis). The bidder shall provide evidence that they comply with this requirement.

The bidder shall state the location of the factory where the apparatus is to be built.

NFPA 2016 STANDARDS

This unit shall comply with the NFPA standards effective January 1, 2016, except for fire department directed exceptions. These exceptions shall be set forth in the Statement of Exceptions.

Certification of slip resistance of all stepping, standing and walking surfaces shall be supplied with delivery of the apparatus.

All horizontal surfaces designated as a standing or walking surface that are greater than 48.00" above the ground must be defined by a 1.00" wide line along its outside perimeter. Perimeter markings and designated access paths to destination points shall be identified on the customer approval print and are shown as approximate. Actual location(s) shall be determined based on materials used and actual conditions at final build. Access paths may pass through hose storage areas and opening or removal of covers or restraints may be required. Access paths may require the operation of devices and equipment such as the aerial device or ladder rack.

A plate that is highly visible to the driver while seated shall be provided. This plate shall show the overall height, length, and gross vehicle weight rating.

The manufacturer shall have programs in place for training, proficiency testing and performance for any staff involved with certifications.

An official of the company shall designate, in writing, who is qualified to witness and certify test results.

BID BOND NOT REQUESTED

A bid bond shall not be included. If requested, the following shall apply:

	Bidder Complies	
	Yes	No
<p>All bidders shall provide a bid bond as security for the bid in the form of a 5% bid bond to accompany their bid. This bid bond shall be issued by a Surety Company who is listed on the U.S. Treasury Departments list of acceptable sureties as published in Department Circular 570. The bid bond shall be issued by an authorized representative of the Surety Company and shall be accompanied by a certified power of attorney dated on or before the date of bid. The bid bond shall include language, which assures that the bidder/principal shall give a bond or bonds as may be specified in the bidding or contract documents, with good and sufficient surety for the faithful performance of the contract, including the Basic One (1) Year Limited Warranty, and for the prompt payment of labor and material furnished in the prosecution of the contract.</p> <p>Notwithstanding any document or assertion to the contrary, any surety bond related to the sale of a vehicle shall apply only to the Basic One (1) Year Limited Warranty for such vehicle. Any surety bond related to the sale of a vehicle shall not apply to any other warranties that are included within this bid (OEM or otherwise) or to the warranties (if any) of any third party of any part, component, attachment or accessory that is incorporated into or attached to the vehicle. In the event of any contradiction or inconsistency between this provision and any other document or assertion, this provision shall prevail.</p> <p><u>PERFORMANCE BOND NOT REQUESTED</u></p> <p>A performance bond shall not be included. If requested at a later date, one shall be provided to you for an additional cost and the following shall apply:</p> <p>The successful bidder shall furnish a Performance and Payment bond (Bond) equal to 100 percent of the total contract amount within 30 days of the notice of award. Such Bond shall be in a form acceptable to the Owner and issued by a surety company included within the Department of Treasury's Listing of Approved Sureties (Department Circular 570) with a minimum A.M. Best Financial Strength Rating of A and Size Category of XV. In the event of a bond issued by a surety of a lesser Size Category, a minimum Financial Strength rating of A+ is required.</p> <p>Bidder and Bidder's surety agree that the Bond issued hereunder, whether expressly stated or not, also includes the surety's guarantee of the vehicle manufacturer's Bumper to Bumper warranty period included within this proposal. Owner agrees that the penal amount of this bond shall be simultaneously amended to 25 percent of the total contract amount upon satisfactory acceptance and delivery of the vehicle(s) included herein. Notwithstanding anything contained within this contract to the contrary, the surety's liability for any warranties of any type shall not exceed three (3) years from the date of such satisfactory acceptance and delivery, or the actual Bumper to Bumper warranty period, whichever is shorter.</p> <p><u>APPROVAL DRAWING</u></p> <p>A drawing of the proposed apparatus shall be provided for approval before construction begins. The sales representative shall also have a copy of the same drawing. The finalized and approved</p>		

	Bidder Complies	
	Yes	No
<p>drawing shall become part of the contract documents. This drawing shall indicate the chassis make and model, location of the lights, siren, horns, compartments, major components, etc.</p> <p>A "revised" approval drawing of the apparatus shall be prepared and submitted by the manufacturer to the purchaser showing any changes made to the approval drawing.</p> <p><u>ELECTRICAL WIRING DIAGRAMS</u></p> <p>Two (2) electrical wiring diagrams, prepared for the model of chassis and body, shall be provided.</p> <p><u>CHASSIS</u></p> <p>Chassis provided shall be a new, tilt-type custom fire apparatus. The chassis shall be manufactured in the apparatus body builder's facility eliminating any split responsibility. The chassis shall be designed and manufactured for heavy-duty service, with adequate strength and capacity for the intended load to be sustained and the type of service required.</p> <p><u>WHEELBASE</u></p> <p>The wheelbase of the vehicle shall be no greater than 208.00".</p> <p><u>GVW RATING</u></p> <p>The gross vehicle weight rating shall be a minimum of 42,000.</p> <p><u>FRAME</u></p> <p>The chassis frame shall be built with two (2) steel channels bolted to five (5) cross members or more, depending on other options of the apparatus. The side rails shall be heat-treated steel measuring 10.25" x 3.50" x .375".</p> <p>Each rail shall have a section modulus of 16.00 cubic inches, yield strength of 120,000 psi, and a resisting bending moment (rbm) of 1,921,069 inch-pounds.</p> <p><u>FRONT AXLE</u></p> <p>The front axle shall be a reverse "I" beam type with inclined king pins and a rated capacity of 18,000 lb.</p> <p><u>FRONT SUSPENSION</u></p> <p>The front springs shall be a three (3)-leaf, taper leaf design, 54.00" long x 4.00" wide, with a ground rating of 18,000 lb.</p> <p>The two (2) top leaves shall wrap the forward spring hanger pin. The top leaf shall also wrap the rear spring hanger pin. Both the front and rear eyes shall be Berlin style wraps that shall place the eyes in the horizontal plane within the main leaf. This shall reduce bending stress from acceleration and braking.</p>		

	Bidder Complies	
	Yes	No
<p>A steel encased rubber bushing shall be used in the spring eye. The steel encased rubber bushing shall be maintenance free and require no lubrication.</p> <p><u>SHOCK ABSORBERS</u> To provide a smoother ride, heavy-duty telescoping shock absorbers shall be provided on the front axle.</p> <p><u>FRONT OIL SEALS</u> Oil seals with viewing window shall be provided on the front axle.</p> <p><u>FRONT TIRES</u> Front tires shall be 315/80R22.50 radials, 20 ply tread, rated for 18,180 lb maximum axle load and 68 mph maximum speed.</p> <p>The tires shall be mounted on 22.50" x 9.00" polished aluminum disc wheels with a ten (10) stud, 11.25" bolt circle.</p> <p><u>REAR AXLE</u> The rear axle shall have a capacity of 24,000 lb.</p> <p><u>TOP SPEED OF VEHICLE</u> A rear axle ratio shall be furnished to allow the vehicle to reach a top speed of 68 mph.</p> <p><u>REAR SUSPENSION</u> The rear suspension shall be semi-elliptical, 3.00" wide x 53.00" long, 12-leaf pack with a ground rating of 24,000 lb. The spring hangers shall be castings.</p> <p>The two (2) top leaves shall wrap the forward spring hanger pin, and the rear of the spring shall be a slipper style end that shall ride in a rear slipper hanger. To reduce bending stress due to acceleration and braking, the front eye shall be a berlin eye that shall place the front spring pin in the horizontal plane within the main leaf.</p> <p>A steel encased rubber bushing shall be used in the spring eye. The steel encased rubber bushing shall be maintenance free and require no lubrication.</p> <p><u>REAR OIL SEALS</u> Oil seals shall be provided on the rear axle(s).</p> <p><u>REAR TIRES</u> Rear tires shall be four (4) 12R22.50 radials, 16 ply all season, rated for 27,120 lb maximum axle load and 75 mph maximum speed.</p> <p>The tires shall be mounted on 22.50" x 8.25" polished aluminum disc wheels with a ten (10) stud 11.25" bolt circle.</p>		

	Bidder Complies	
	Yes	No
<p><u>TIRE BALANCE</u> All tires shall be balanced with balancing beads. The beads shall be inserted into the tire and eliminate the need for wheel weights.</p> <p><u>TIRE PRESSURE MANAGEMENT</u> There shall be a LED tire alert pressure management system provided, that shall monitor each tire's pressure. A sensor shall be provided on the valve stem of each tire for a total of six (6) tires.</p> <p>The sensor shall calibrate to the tire pressure when installed on the valve stem for pressures between 10 and 200 psi. The sensor shall activate an integral battery operated LED when the pressure of that tire drops 5 to 8 psi.</p> <p>Removing the cap from the sensor shall indicate the functionality of the sensor and battery. If the sensor and battery are in working condition, the LED shall immediately start to flash.</p> <p><u>FRONT HUB COVERS</u> Stainless steel hub covers shall be provided on the front axle. An oil level viewing window shall be provided.</p> <p><u>REAR HUB COVERS</u> A pair of stainless steel high hat hub covers shall be provided on rear axle hubs.</p> <p><u>CHROME LUG NUT COVERS</u> Chrome lug nut covers shall be supplied on front and rear wheels.</p> <p><u>MUD FLAPS</u> Mud flaps shall be installed behind the front and rear wheels of the apparatus.</p> <p><u>WHEEL CHOCKS</u> There shall be one (1) pair of folding aluminum alloy wheel blocks, with easy-grip handle provided.</p> <p><u>WHEEL CHOCK BRACKETS</u> There shall be one (1) pair of horizontal mounting wheel chock brackets provided for the folding wheel chocks. The brackets shall be made of aluminum and consist of a quick release spring loaded rod to hold the wheel chocks in place. The brackets shall be mounted forward of the left side rear tire.</p> <p><u>ANTI-LOCK BRAKE SYSTEM</u> The vehicle shall be equipped with an anti-lock braking system. The ABS shall provide a 4-channel anti-lock braking control on both the front and rear wheels. A digitally controlled system that utilizes microprocessor technology shall control the anti-lock braking system. Each</p>		

	Bidder Complies	
	Yes	No
<p>wheel shall be monitored by the system. When any particular wheel begins to lockup, a signal to be sent to the control unit. This control unit shall then reduce the braking of that wheel for a fraction of a second and then reapply the brake. This anti-lock brake system shall eliminate the lockup of any wheel thus helping to prevent the apparatus from skidding out of control.</p> <p><u>BRAKES</u></p> <p>The service brake system shall be a full air type design.</p> <p>Front brakes shall be disc type with automatic pad wear adjustment and 17.00" rotors for improved stopping distance.</p> <p>The rear brakes shall be 16.50" x 7.00" cam operated with automatic slack adjusters.</p> <p><u>BRAKE SYSTEM AIR COMPRESSOR</u></p> <p>The air compressor shall have 18.7 cubic feet per minute output.</p> <p><u>BRAKE SYSTEM</u></p> <p>The brake system shall include:</p> <ul style="list-style-type: none"> • Brake treadle valve • Heated automatic moisture ejector on air dryer • Total air system minimum capacity of 4,272 cubic inches • Two (2) air pressure gauges with a red warning light and an audible alarm, that activates when air pressure falls below 60 psi • Spring set parking brake system • Parking brake operated by a push-pull style control valve • A parking "brake on" indicator light on instrument panel • Park brake relay/inversion and anti-compounding valve, in conjunction with a double check valve system, with an automatic spring brake application at 40 psi • A pressure protection valve to prevent all air operated accessories from drawing air from the air system when the system pressure drops below 80 psi (550 kPa) • 1/4 turn drain valves on each air tank <p>The air tank shall be primed and painted to meet a minimum 750 hour salt spray test.</p> <p>To reduce the effects of corrosion, the air tank shall be mounted with stainless steel brackets (no exception).</p> <p><u>BRAKE SYSTEM AIR DRYER</u></p> <p>The air dryer shall be properly sized for the brake system with internal wet tank, spin-on coalescing filter cartridge and 100 watt heater.</p>		

Bidder Complies	
Yes	No

BRAKE LINES

Color-coded nylon brake lines shall be provided. The lines shall be wrapped in a heat protective loom where necessary in the chassis.

AIR INLET

One (1) air inlet with 3D series male coupling shall be provided. It shall allow station air to be supplied to the apparatus brake system through a shoreline hose. The inlet shall be located in the driver side lower step well of cab. A check valve shall be provided to prevent reverse flow of air. The inlet shall discharge into the "wet" tank of the brake system. A mating female fitting shall also be provided with the loose equipment.

ENGINE

The chassis shall be powered by an electronically controlled engine as described below:

Power:	450 hp at 2100 rpm
Torque:	1250 lb-ft at 1400 rpm
Governed Speed:	2200 rpm
Emissions Level:	EPA 2016
Fuel:	Diesel
Cylinders:	Six (6)
Displacement:	543 cubic inches (8.9L)
Starter:	Heavy duty
Fuel Filters:	Spin-on style primary filter with water separator and water-in-fuel sensor. Secondary spin-on style filter. Fuel system shall automatically reprime at start-up.

The engine shall include On-board diagnostics (OBD), which provides self-diagnostic and reporting. The system shall give the owner or repair technician access to state of health information for various vehicle sub systems. The system shall monitor vehicle systems, engine and after treatment. The system shall illuminate a malfunction indicator light on the dash console if a problem is detected.

HIGH IDLE

A high idle switch shall be provided, inside the cab, on the instrument panel, that shall automatically maintain a preset engine rpm. A switch shall be installed, at the cab instrument panel, for activation/deactivation.

	Bidder Complies	
	Yes	No
<p>The high idle shall be operational only when the parking brake is on and the truck transmission is in neutral. A green indicator light shall be provided, adjacent to the switch. The light shall illuminate when the above conditions are met. The light shall be labeled "OK to Engage High Idle."</p> <p><u>ENGINE BRAKE</u></p> <p>An engine brake is to be installed with the controls located on the instrument panel within easy reach of the driver.</p> <p>The driver shall be able to turn the engine brake system on/off and have a high, medium and low setting.</p> <p>The engine brake shall activate when the system is on and the throttle is released.</p> <p>The high setting of the brake application shall activate and work simultaneously with the variable geometry turbo (VGT) provided on the engine.</p> <p>The engine brake shall be installed in such a manner that when the engine brake is slowing the vehicle the brake lights are activated.</p> <p>The ABS system shall automatically disengage the auxiliary braking device, when required.</p> <p><u>CLUTCH FAN</u></p> <p>A fan clutch shall be provided. The fan clutch shall be automatic when the pump transmission is in "Road" position, and constantly engaged when in "Pump" position.</p> <p><u>ENGINE AIR INTAKE</u></p> <p>The engine air intake shall be located above the engine cooling package. It shall draw fresh air from the front of the apparatus through the radiator grille.</p> <p>A stainless steel metal screen shall be installed at the inlet of the air intake system that shall meet NFPA 1901 requirements.</p> <p>The air cleaner and stainless steel screen shall be easily accessible by tilting the cab.</p> <p><u>EXHAUST SYSTEM</u></p> <p>The exhaust system shall be stainless steel from the turbo to the inlet of the selective catalytic reduction (SCR) device, and shall be 4.00" in diameter. The exhaust system shall include a diesel particulate filter (DPF) and an SCR device to meet current EPA standards. An insulation wrap shall be provided on all exhaust pipes between the turbo and DPF to minimize the transfer of heat to the cab. The exhaust shall terminate horizontally ahead of the right side rear wheels. A tailpipe diffuser shall be provided to reduce the temperature of the exhaust as it exits. Heat</p>		

	Bidder Complies	
	Yes	No
<p>deflector shields shall be provided to isolate chassis and body components from the heat of the tailpipe diffuser.</p> <p><u>RADIATOR</u></p> <p>The radiator and the complete cooling system shall meet or exceed NFPA and engine manufacturer cooling system standards.</p> <p>For maximum corrosion resistance and cooling performance, the entire radiator core shall be constructed using long life aluminum alloy. The radiator core shall consist of aluminum fins, having a serpentine design, brazed to aluminum tubes. No solder joints or leaded material of any kind shall be acceptable in the core assembly.</p> <p>The radiator core shall have a minimum front area of 1060 square inches.</p> <p>Supply and return tanks shall be made of heavy duty glass-reinforced nylon that shall be crimped onto the core assembly using header tabs and a compression gasket to complete the radiator core assembly. There shall be a full steel frame around the inserts to enhance cooling system durability and reliability.</p> <p>The radiator shall be compatible with commercial antifreeze solutions.</p> <p>The radiator assembly shall be isolated from the chassis frame rails with rubber isolators to prevent the development of leaks caused by twisting or straining when the apparatus operates over uneven terrain.</p> <p>The radiator shall include a de-aeration/expansion tank. For visual coolant level inspection, the radiator shall have a built-in sight glass. The radiator shall be equipped with a 15 psi pressure relief cap.</p> <p>A drain port shall be located at the lowest point of the cooling system and/or the bottom of the radiator to permit complete flushing of the coolant from the system.</p> <p>Shields or baffles shall be provided to prevent recirculation of hot air to the inlet side of the radiator.</p> <p><u>COOLANT LINES</u></p> <p>Rubber hose shall be used for all engine coolant lines to be installed by the chassis manufacturer.</p> <p>Hose clamps shall be stainless steel constant torque type to prevent coolant leakage. They shall react to temperature changes in the cooling system and expand or contract accordingly while maintaining a constant clamping pressure on the hose.</p>		

	Bidder Complies	
	Yes	No
<p><u>FUEL TANK</u></p> <p>A 65 gallon fuel tank shall be provided and mounted at the rear of the chassis. The tank shall be constructed of 12-gauge, hot rolled steel. It shall be equipped with swash partitions and a vent. To eliminate the effects of corrosion, the fuel tank shall be mounted with stainless steel straps (no exception).</p> <p>A 0.75" drain plug shall be provided in a low point of the tank for drainage.</p> <p>A fill inlet shall be located on the left hand side of the body and be covered with a hinged, spring loaded, stainless steel door that is marked "Ultra Low Sulfur - Diesel Fuel Only."</p> <p>A 0.50" diameter vent shall be provided running from top of tank to just below fuel fill inlet.</p> <p>The tank shall meet all FHWA 393.67 requirements including a fill capacity of 95 percent of tank volume.</p> <p>All fuel lines shall be provided as recommended by the engine manufacturer.</p> <p><u>DIESEL EXHAUST FLUID TANK</u></p> <p>A 4.5 gallon diesel exhaust fluid (DEF) tank shall be provided and mounted in the driver's side body rearward of the rear axle.</p> <p>A 0.50" drain plug shall be provided in a low point of the tank for drainage.</p> <p>A fill inlet shall be provided and marked "Diesel Exhaust Fluid Only". The fill inlet shall be located adjacent to the engine fuel inlet behind a common hinged, spring loaded, polished stainless steel door on the driver side of the vehicle.</p> <p>The tank shall meet the engine manufacturer's requirement for 10 percent expansion space in the event of tank freezing.</p> <p>The tank shall include an integrated heater unit that utilizes engine coolant to thaw the DEF in the event of freezing.</p> <p><u>TRANSMISSION</u></p> <p>An electronic torque converting automatic transmission shall be provided.</p> <p>The transmission shall be equipped with prognostics to monitor oil life, filter life, and transmission health. A wrench icon on the shift selector's digital display shall indicate when service is due.</p> <p>Two (2) PTO openings shall be located on both sides of converter housing (positions 4 o'clock and 8 o'clock) as viewed from the rear.</p>		

Bidder Complies	
Yes	No

A transmission temperature gauge with red light and audible alarm shall be installed on the cab dash.

TRANSMISSION SHIFTER

A five (5)-speed push button shift module shall be mounted to right of driver on console. Shift position indicator shall be indirectly lit for after dark operation.

The transmission ratio shall be:

1st	3.49 to 1.00
2nd	1.86 to 1.00
3rd	1.41 to 1.00
4th	1.00 to 1.00
5th	0.75 to 1.00
R	5.03 to 1.00

TRANSMISSION COOLER

A plate and fin transmission oil cooler shall be provided using engine coolant to control the transmission oil temperature.

DRIVELINE

Drivelines shall be a heavy-duty metal tube and be equipped with universal joints.

The shafts shall be dynamically balanced before installation.

A splined slip joint shall be provided in each driveshaft.

STEERING

Steering gear shall be provided with integral heavy-duty power steering. For reduced system temperatures, the power steering shall incorporate an air to oil cooler and hydraulic pump with integral pressure and flow control. All power steering lines shall have wire braded lines with crimped fittings.

A tilt and telescopic steering column shall be provided to improve fit for a broader range of driver configurations.

STEERING WHEEL

The steering wheel shall be 18.00" in diameter, have tilting and telescoping capabilities, and a 4-spoke design.

WINCH

A Warn, multi-mount, 9,000 lb portable 12V electric winch shall be provided.

	Bidder Complies	
	Yes	No
<p>The winch shall mount to the vehicle receiver hitch and be held in place with a locking hardened pin.</p> <p>The winch shall be provided with 125 feet of .313" galvanized cable with a replaceable clevis hook.</p> <p>A minimum of a 30' remote control shall be provided.</p> <p>A label shall be placed on or near the receiver that states the maximum winch load rating and the maximum rope load rating that the receiver can support.</p> <p><u>BUMPER</u></p> <p>A one (1) piece, stainless steel bumper shall be attached to the front of the frame.</p> <p>A 9.00" channel shall be mounted directly behind the bumper for additional strength.</p> <p>The bumper shall be extended 22.00" from front face of cab.</p> <p><u>GRAVEL PAN</u></p> <p>A gravel pan, constructed of bright aluminum treadplate, shall be furnished between the bumper and cab face. The gravel pan shall be properly supported from the underside to prevent flexing and vibration of the aluminum treadplate.</p> <p><u>TOOL BOX</u></p> <p>The front bumper extension shall have an aluminum tool/chain box installed on the right side. The box shall be raised 1.50" above the gravel pan.</p> <p><u>TOOL BOX COVER</u></p> <p>A bright aluminum treadplate cover shall be provided.</p> <p>The cover shall be attached with a stainless steel hinge.</p> <p>A single D-ring latch shall secure the cover in the closed position and a pneumatic stay arm shall hold the cover in the open position.</p> <p><u>TOW HOOKS</u></p> <p>Two (2) chromed steel tow hooks shall be installed under the bumper and attached to the front frame members. The tow hooks shall be designed and positioned to allow up to a 6,000 lb straight horizontal pull in line with the centerline of the vehicle. The tow hooks shall not be used for lifting of the apparatus.</p> <p><u>PORTABLE WINCH STORAGE WITH HINGED CENTER SECTION</u></p> <p>A tray for a portable winch, constructed of aluminum, shall be placed in the center of the bumper extension.</p>		

	Bidder Complies	
	Yes	No
<p>The tray shall be enclosed to protect the winch from weather. A raised aluminum treadplate cover shall be made as high as necessary to enclose the winch. The lower section of winch compartment shall be enclosed, to prevent road salt, snow, and ice from entering the winch compartment.</p> <p>Drain holes shall be provided.</p> <p>The center section of the bumper shall be hinged at the bottom to allow access to the winch. Two (2) pawl latches shall hold the center section in the closed position.</p> <p>A portable winch receiver shall be installed in the back of the tray. The winch receiver shall be constructed of heavy steel tubing and reinforced to the bumper extension framework for the receiving portion. The receiver shall have a 2.00" inside dimension, with a maximum weight rating of 9,000 pounds.</p> <p>The assembly shall be designed to allow the winch to be stored and used from the tray.</p> <p><u>CAB</u></p> <p>The cab shall be designed specifically for the fire service and manufactured by the chassis builder.</p> <p>The cab shall be built by the apparatus manufacturer in a facility located on the manufacturer's premises (no exception).</p> <p>For reasons of structural integrity and enhanced occupant protection, the cab shall be a heavy duty design, constructed to the following minimal standards.</p> <p>The cab shall have 12 main vertical structural members located in the A-pillar (front cab corner posts), B-pillar (side center posts), C-pillar (rear corner posts), and rear wall areas. The A-pillar shall be constructed of solid A356-T5 aluminum castings. The B-pillar and C-pillar shall be constructed from 0.13" wall extrusions. The rear wall shall be constructed of two (2) 2.00" x 2.00" outer aluminum extrusions and two (2) 2.00" x 1.00" inner aluminum extrusions. All main vertical structural members shall run from the floor to 4.625" x 3.864" x 0.090" thick roof extrusions to provide a cage-like structure with the A-pillar and roof extrusions being welded into a 0.25" thick corner casting at each of the front corners of the roof assembly.</p> <p>The front of the cab shall be constructed of a 0.13" firewall plate, covered with a 0.090" front skin (for a total thickness of 0.22"), and reinforced with a full width x 0.50" thick cross-cab support located just below the windshield and fully welded to the engine tunnel. The cross-cab support shall run the full width of the cab and weld to each A-pillar, the 0.13" firewall plate, and the front skin.</p>		

	Bidder Complies	
	Yes	No
<p>The cab floors shall be constructed of 0.125" thick aluminum plate and reinforced at the firewall with an additional 0.25" thick cross-floor support providing a total thickness of 0.375" of structural material at the front floor area. The front floor area shall also be supported with two (2) triangular 0.30" wall extrusions that also provides the mounting point for the cab lift. This tubing shall run from the floor wireway of the cab to the engine tunnel side plates, creating the structure to support the forces created when lifting the cab.</p> <p>The cab shall be 96.00" wide (outside door skin to outside door skin) to maintain maximum maneuverability (no exception).</p> <p>The forward cab section shall have an overall height (from the cab roof to the ground) of approximately 99.00". The crew cab section shall have a 10.00" raised roof, with an overall cab height of approximately 109.00". The overall height listed shall be calculated based on a truck configuration with the lowest suspension weight rating, the smallest diameter tires for the suspension, no water weight, no loose equipment weight, and no personnel weight. Larger tires, wheels, and suspension shall increase the overall height listed.</p> <p>The floor to ceiling height inside the crew cab shall be 64.50" in the center and outboard positions.</p> <p>The crew cab floor shall measure 46.00" from the rear wall to the back side of the rear facing seat risers.</p> <p>The engine tunnel, at the rearward highest point (knee level), shall measure 61.50" to the rear wall.</p> <p>The crew cab shall be a totally enclosed design with the interior area completely open to improve visibility and verbal communication between the occupants.</p> <p>The cab shall be a full tilt cab style.</p> <p>A 3-point cab mount system with rubber isolators shall improve ride quality by isolating chassis vibrations from the cab.</p> <p><u>CAB ROOF DRIP RAIL</u></p> <p>For enhanced protection from inclement weather, a drip rail shall be furnished on the sides of the cab. The drip rail shall be painted to match the cab roof, and bonded to the sides of the cab. The drip rail shall extend the full length of the cab roof.</p> <p><u>INTERIOR CAB INSULATION</u></p> <p>The cab shall include 1.00" insulation in the ceiling, 1.50" insulation in the side walls, and 2.00" insulation in the rear wall to maximize acoustic absorption and thermal insulation.</p>		

	Bidder Complies	
	Yes	No
<p><u>FENDER LINERS</u> Full circular inner fender liners in the wheel wells shall be provided.</p> <p><u>PANORAMIC WINDSHIELD</u> A 1-piece safety glass windshield shall be provided with over 2,775 square inches of clear viewing area. The windshield shall be full width and shall provide the occupants with a panoramic view. The windshield shall consist of three (3) layers: outer light, middle safety laminate, and inner light. The outer light layer shall provide superior chip resistance. The middle safety laminate layer shall prevent the windshield glass pieces from detaching in the event of breakage. The inner light shall provide yet another chip resistant layer. The cab windshield shall be bonded to the aluminum windshield frame using a urethane adhesive. A custom frit pattern shall be applied on the outside perimeter of the windshield for a finished automotive appearance.</p> <p><u>WINDSHIELD WIPERS</u> Three (3) electric windshield wipers with washer shall be provided that meet FMVSS and SAE requirements. The washer reservoir shall be able to be filled without raising the cab.</p> <p><u>ENGINE TUNNEL</u> Engine hood side walls shall be constructed of 0.375" aluminum. The top shall be constructed of 0.125" aluminum and shall be tapered at the top to allow for more driver and passenger elbow room. The engine hood shall be insulated for protection from heat and sound. The noise insulation keeps the dBA level within the limits stated in the current NFPA 1901 standards. The engine tunnel shall be no higher than 17.00" off the crew cab floor (no exception).</p> <p><u>INTERIOR CREW CAB REAR WALL ADJUSTABLE SEATING (PATENT PENDING)</u> The interior rear wall of the crew cab shall have mounting holes every 2.75" to allow for adjustability of the forward facing crew cab seating along the rear wall. Seats shall be adjustable with use of simple hand tools allowing departments flexibility of their seating arrangement should their department needs change.</p> <p><u>CAB REAR WALL EXTERIOR COVERING</u> The exterior surface of the rear wall of the cab shall be painted job color</p> <p><u>CAB LIFT</u> A hydraulic cab lift system shall be provided consisting of an electric powered hydraulic pump, dual lift cylinders, and necessary hoses and valves.</p>		

	Bidder Complies	
	Yes	No
<p>Lift controls shall be located on the right side pump panel or front area of the body in a convenient location.</p> <p>The cab shall be capable of tilting 43 degrees to accommodate engine maintenance and removal.</p> <p>The cab shall be locked down by a 2-point normally closed spring loaded hook type latch that fully engages after the cab has been lowered. The system shall be hydraulically actuated to release the normally closed locks when the cab lift control is in the raised position and cab lift system is under pressure. When the cab is completely lowered and system pressure has been relieved, the spring loaded latch mechanisms shall return to the normally closed and locked position.</p> <p>The hydraulic cylinders shall be equipped with a velocity fuse that protects the cab from accidentally descending when the control is located in the tilt position.</p> <p>For increased safety, a redundant mechanical stay arm shall be provided that must be manually put in place on the left side between the chassis and cab frame when the cab is in the raised position. This device shall be manually stowed to its original position before the cab can be lowered.</p> <p><u>Cab Lift Interlock</u></p> <p>The cab lift system shall be interlocked to the parking brake. The cab tilt mechanism shall be active only when the parking brake is set and the ignition switch is in the on position. If the parking brake is released, the cab tilt mechanism shall be disabled.</p> <p><u>GRILLE</u></p> <p>A single piece polished stainless steel grille and framework shall be provided on the front center of the cab.</p> <p><u>TRIM BAND ON CAB FACE</u></p> <p>A 10.00" band of 22 gauge patterned stainless steel trim shall be installed across the front of the cab, from door hinge to door hinge. The trim band shall be centered on the headlights and applied with two-sided tape. A 0.625" self-adhesive trim strip shall be applied around the perimeter of the trim band.</p> <p><u>SIDE OF CAB MOLDING</u></p> <p>Chrome molding shall be provided on both sides of cab.</p> <p><u>MIRRORS</u></p> <p>A dual vision, motorized, west coast style mirror, with chrome finish, shall be mounted on each side of the front cab door with spring loaded retractable arms. The flat glass and convex glass shall be heated and adjustable with remote control within reach of the driver.</p>		

	Bidder Complies	
	Yes	No
<p><u>DOORS</u></p> <p>To enhance entry and egress to the cab, the forward cab door openings shall be a minimum of 37.50" wide x 63.37" high. The crew cab doors shall be located on the sides of the cab and shall be constructed in the same manner as the forward cab doors. The crew cab door openings shall be a minimum of 34.30" wide x 73.25" high.</p> <p>The forward cab and crew cab doors shall be constructed of extruded aluminum with a nominal material thickness of 0.093". The exterior door skins shall be constructed from 0.090" aluminum.</p> <p>A customized, vertical, pull-down type door handle shall be provided on the exterior of each cab door. The exterior handle shall be designed specifically for the fire service to prevent accidental activation, and shall provide 4.00" wide x 2.00" deep hand clearance for ease of use with heavy gloved hands. Each door shall also be provided with an interior flush, open style paddle handle that shall be readily operable from fore and aft positions, and be designed to prevent accidental activation. The interior handles shall provide 4.00" wide x 1.25" deep hand clearance for ease of use with heavy gloved hands.</p> <p>The cab doors shall be provided with both interior (rotary knob) and exterior (keyed) locks exceeding FMVSS standards. The locks shall be capable of activating when the doors are open or closed. The doors shall remain locked if locks are activated when the doors are opened, then closed.</p> <p>A full length, heavy duty, stainless steel, piano-type hinge with a 0.38" pin and 11 gauge leaf shall be provided on all cab doors. There shall be double automotive-type rubber seals around the perimeter of the door framing and door edges to ensure a weather-tight fit.</p> <p>A chrome grab handle shall be provided on the inside of each cab door for ease of entry.</p> <p>The bottom cab step at each cab door location shall be located below the cab doors and shall be exposed to the exterior of the cab.</p> <p><u>DOOR PANELS</u></p> <p>The inner cab door panels shall be constructed out of brushed stainless steel.</p> <p><u>ELECTRIC OPERATED CAB DOOR WINDOWS</u></p> <p>All four (4) cab doors shall be equipped with electric operated windows with one (1) flush mounted automotive style switch on each door. The driver's door shall have four (4) switches, one (1) to control each door window.</p> <p>Each switch shall allow intermittent or auto down operation for ease of use. Auto down operation shall be actuated by holding the window down switch for approximately 1 second.</p>		

Bidder Complies	
Yes	No

CAB STEPS

The forward cab and crew cab access steps shall be a full size two (2) step design to provide largest possible stepping surfaces for safe ingress and egress. The bottom steps shall be designed with a grip pattern punched into bright aluminum treadplate material to provide support, slip resistance, and drainage. The bottom steps shall be a bolt-in design to minimize repair costs should they need to be replaced. The forward cab steps shall be a minimum 25.00" wide, and the crew cab steps shall be 21.65" wide with a 10.00" minimum depth. The inside cab steps shall not exceed 16.50" in height. A slip-resistant handrail shall be provided adjacent to each cab door opening to assist during cab ingress and egress.

The vertical surfaces of the step well shall be aluminum treadplate.

STEP LIGHTS

There shall be six (6) white LED step lights installed for cab and crew cab access steps.

- One (1) light for the driver's access steps.
- Two (2) lights for the driver's side crew cab access steps.
- Two (2) lights for the passenger's side crew cab access steps.
- One (1) light for the passenger's side access step.

In order to ensure exceptional illumination, each light shall provide a minimum of 25 foot-candles (fc) covering an entire 15" x 15" square placed ten (10) inches below the light and a minimum of 1.5 fc covering an entire 30" x 30" square at the same ten (10) inch distance below the light.

The lights shall be activated when the battery switch is on and the adjacent door is opened.

FENDER CROWNS

Stainless steel fender crowns shall be installed at the cab wheel openings.

CREW CAB WINDOWS

One (1) fixed window with tinted glass shall be provided on each side of the cab, to the rear of the front cab door. The windows shall be sized to enhance light penetration into the cab interior. The windows shall measure 18.70" wide x 23.75" high.

CAB INTERIOR

The cab interior shall be constructed of primarily metal (painted aluminum) to withstand the severe duty cycles of the fire service.

The officer side dash shall be a flat faced design to provide easy maintenance and shall be constructed out of painted aluminum.

	Bidder Complies	
	Yes	No
<p>The instrument cluster shall be surrounded with a high impact ABS plastic contoured to the same shape of the instrument cluster.</p> <p>The engine tunnel shall be padded and covered, on the top and sides, with gray woven with black Imperial 1200 vinyl coated polyester.</p> <p>The headliner shall be installed in both forward and rear cab sections. Headliner material shall be vinyl. A sound barrier shall be part of its composition. Material shall be installed on aluminum sheet and securely fastened to interior cab ceiling.</p> <p>Forward portion of cab headliner shall permit easy access for service of electrical wiring or other maintenance needs.</p> <p>All wiring shall be placed in metal raceways. Routing through holes in tubing shall not be accepted due to chaffing that installation shall cause.</p> <p><u>CAB INTERIOR UPHOLSTERY</u></p> <p>The cab interior upholstery shall be dark silver gray.</p> <p><u>CAB INTERIOR PAINT</u></p> <p>The cab interior metal surfaces shall be painted fire smoke gray, vinyl texture paint.</p> <p><u>CAB FLOOR</u></p> <p>The cab and crew cab floor areas shall be covered with floor mat consisting of a black pyramid rubber facing and closed cell foam decoupler.</p> <p>The top surface of the material has a series of raised pyramid shapes evenly spaced, which offer a superior grip surface. Additionally, the material has a 0.25" thick closed cell foam (no water absorption) which offers a sound dampening material for reducing sound levels.</p> <p><u>CAB DEFROSTER</u></p> <p>To provide maximum defrost and heating performance, a 43,500 BTU heater-defroster unit with 350 CFM of air flow shall be provided inside the cab. The defroster unit shall be strategically located under the center forward portion of the vacuum formed instrument panel. For easy access, a removable vacuum formed cover shall be installed over the defroster unit. The defroster shall include an integral aluminum frame air filter, high performance dual scroll blowers, and ducts designed to provide maximum defrosting capabilities for the 1-piece windshield. The defroster ventilation shall be built into the design of the cab dash instrument panel and shall be easily removable for maintenance. The defroster shall be capable of clearing 98 percent of the windshield and side glass when tested under conditions where the cab has been cold soaked at 0 degrees Fahrenheit for 10 hours, and a 2 ounce per square inch layer of frost/ice has been able to build up on the exterior windshield. The defroster system shall meet or exceed SAE J382 requirements.</p>		

	Bidder Complies	
	Yes	No
<p><u>CAB/CREW CAB HEATER</u></p> <p>Two (2) 44,180 BTU auxiliary heaters with 276 CFM (each unit) of air flow shall be provided inside the crew cab, one (1) in each outboard rear-facing seat riser. The heaters shall include high performance dual scroll blowers, one (1) for each unit. Outlets for the heaters shall be located below each rear facing seat riser and below the fronts of the driver and passenger seats, for efficient airflow. An extruded aluminum plenum shall be incorporated in the cab structure that shall transfer heat to the forward cab seating positions.</p> <p>The heater/defroster and crew cab heaters shall be controlled by a single integral electronic control panel. The heater control panel shall allow the driver to control heat flow to the front and rear simultaneously. The control panel shall include variable adjustment for temperature and fan control, and be conveniently located on the dash in clear view of the driver. The control panel shall include highly visible, progressive LED indicators for both fan speed and temperature.</p> <p><u>AIR CONDITIONING</u></p> <p>A high performance, customized air conditioning system shall be furnished inside the cab and crew cab.</p> <p>The air conditioning system shall be capable of cooling the average cab temperature from 100 degrees Fahrenheit to 75 degrees Fahrenheit within 30 minutes at 50 percent relative humidity. The cooling performance test shall be run only after the cab has been heat soaked at 100 degrees Fahrenheit for a minimum of 4 hours.</p> <p>A radiator mounted condenser with a 59,644 BTU output that meets and exceed the performance specification shall be installed. Mounting the condenser below the cab or body would reduce the performance of the system and shall not be acceptable.</p> <p>One (1) evaporator unit shall be installed in the center roof with two (2) cores, one (1) for the cab and one (1) for the crew cab. The evaporator unit shall have an adequate BTU rating to meet the performance specifications.</p> <p>Adjustable air outlets shall be strategically located on the evaporator cover per the following:</p> <ul style="list-style-type: none"> • Four (4) shall be directed towards the driver's location • Four (4) shall be directed towards the officer's location • Seven (7) shall be directed towards the crew cab area <p>The air conditioner refrigerant shall be R-134A and shall be installed by a certified technician.</p> <p>The air conditioner shall be controlled by a single electronic control panel. For ease of operation, the control panel shall include variable adjustment for temperature and fan control and be conveniently located on the dash in clear view of the driver.</p>		

	Bidder Complies	
	Yes	No
<p><u>SUN VISORS</u></p> <p>Two (2) smoked polycarbonate sun visors provided. The sun visors shall be located above the windshield with one (1) mounted on each side of the cab.</p> <p>There shall be no retention bracket provided to help secure each sun visor in the stowed position.</p> <p><u>GRAB HANDLES</u></p> <p>A black rubber covered grab handle shall be mounted on the door post of the driver and officer's side cab door to assist in entering the cab. The grab handles shall be securely mounted to the post area between the door and windshield.</p> <p><u>ENGINE COMPARTMENT LIGHTS</u></p> <p>There shall be one (1) 12 volt DC, 3.00" white LED light(s) with chrome flange kit(s) installed under the cab to be used as engine compartment illumination.</p> <p>These light(s) shall be activated automatically when the cab is raised.</p> <p><u>ACCESS TO ENGINE DIPSTICKS</u></p> <p>For access to the engine oil and transmission fluid dipsticks, there shall be a door on the engine tunnel, inside the crew cab. The door shall be on the rear wall of the engine tunnel, on the vertical surface.</p> <p>The engine oil dipstick shall allow for checking only. The transmission dipstick shall allow for both checking and filling.</p> <p>The door shall have a rubber seal for thermal and acoustic insulation. One (1) flush latch shall be provided on the access door.</p> <p><u>CAB SAFETY SYSTEM</u></p> <p>The cab shall be provided with a safety system designed to protect occupants in the event of a side roll or frontal impact, and shall include the following:</p> <ul style="list-style-type: none"> • A supplemental restraint system (SRS) sensor shall be installed on a structural cab member behind the instrument panel. The SRS sensor shall perform real time diagnostics of all critical subsystems and shall record sensory inputs immediately before and during a side roll or frontal impact event. • A slave SRS sensor shall be installed in the cab to provide capacity for eight (8) crew cab seating positions. • A fault-indicating light shall be provided on the vehicle's instrument panel allowing the driver to monitor the operational status of the SRS system. 		

	Bidder Complies	
	Yes	No
<ul style="list-style-type: none"> • A driver side front air bag shall be mounted in the steering wheel and shall be designed to protect the head and upper torso of the occupant, when used in combination with the 3-point seat belt. • A passenger side knee bolster air bag shall be mounted in the modesty panel below the dash panel and shall be designed to protect the legs of the occupant, when used in combination with the 3-point seat belt. • Air curtains shall be provided in the outboard bolster of outboard seat backs to provide a cushion between occupant and the cab wall. • Suspension seats shall be provided with devices to retract them to the lowest travel position during a side roll or frontal impact event. • Seat belts shall be provided with pre-tensioners to remove slack from the seat belt during a side roll or frontal impact event. <p><u>FRONTAL IMPACT PROTECTION</u></p> <p>The SRS system shall provide protection during a frontal or oblique impact event. The system shall activate when the vehicle decelerates at a predetermined G force known to cause injury to the occupants. The cab and chassis shall have been subjected, via third party test facility, to a crash impact during frontal and oblique impact testing. Testing included all major chassis and cab components such as mounting straps for fuel and air tanks, suspension mounts, front suspension components, rear suspensions components, frame rail cross members, engine and transmission and their mounts, pump house and mounts, frame extensions and body mounts. The testing provided configuration specific information used to optimize the timing for firing the safety restraint system. The sensor shall activate the pyrotechnic devices when the correct crash algorithm, wave form, is detected (no exception).</p> <p>The SRS system shall deploy the following components in the event of a frontal or oblique impact event:</p> <ul style="list-style-type: none"> • Driver side front air bag • Passenger side knee bolster air bag • Air curtains mounted in the outboard bolster of outboard seat backs • Suspension seats shall be retracted to the lowest travel position • Seat belts shall be pre-tensioned to firmly hold the occupant in place <p><u>SIDE ROLL PROTECTION</u></p> <p>The SRS system shall provide protection during a fast or slow 90 degree roll to the side, in which the vehicle comes to rest on its side. The system shall analyze the vehicle's angle and rate of roll to determine the optimal activation of the advanced occupant restraints.</p> <p>The SRS system shall deploy the following components in the event of a side roll:</p>		

	Bidder Complies	
	Yes	No
<ul style="list-style-type: none"> • Air curtains mounted in the outboard bolster of outboard seat backs • Suspension seats shall be retracted to the lowest travel position • Seat belts shall be pre-tensioned to firmly hold the occupant in place <p><u>SEATING CAPACITY</u> The seating capacity in the cab shall be six (6).</p> <p><u>DRIVER SEAT</u> A seat shall be provided in the cab for the driver. The seat design shall be a cam action type, with air suspension. For increased convenience, the seat shall include a manual control to adjust the horizontal position (6.00" travel). The manual horizontal control shall be a towel-bar style located below the forward part of the seat cushion. To provide flexibility for multiple driver configurations, the seat shall have an adjustable reclining back. The seat back shall be a high back style with side bolster pads for maximum support. For optimal comfort, the seat shall be provided with 17.00" deep foam cushions designed with EVC (elastomeric vibration control).</p> <p>The seat shall include the following features incorporated into the side roll protection system:</p> <ul style="list-style-type: none"> • Side air curtain shall be mounted integral to the outboard bolster of the seat back. The air curtain shall be covered by a decorative panel when in the stowed position. • A suspension seat safety system shall be included. When activated in the event of a side roll, this system shall pretension the seat belt and retract the seat to its lowest travel position. <p>The seat shall be furnished with a 3-point, shoulder type seat belt.</p> <p><u>OFFICER SEAT</u> A seat shall be provided in the cab for the passenger. The seat shall be a fixed type, with no suspension. For optimal comfort, the seat shall be provided with 17.00" deep foam cushions designed with EVC (elastomeric vibration control).</p> <p>The seat back shall be an SCBA back style with 5 degree fixed recline angle. The SCBA cavity shall be adjustable from front to rear in 1.00" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity shall be accomplished by unbolting, relocating, and re-bolting it in the desired location.</p> <p>The seat shall include the following features incorporated into the side roll protection system:</p> <ul style="list-style-type: none"> • Side air curtain shall be mounted integral to the outboard bolster of the seat back. The air curtain shall be covered by a decorative panel when in the stowed position. • A seat safety system shall be included. When activated, this system shall pretension the seat belt. 		

	Bidder Complies	
	Yes	No
<p>The seat shall be furnished with a 3-point, shoulder type seat belt.</p> <p><u>RADIO COMPARTMENT</u></p> <p>A radio compartment shall be provided under the officer's seat.</p> <p>The inside compartment dimensions shall be 16.00" wide x 7.50" high x 15.00" deep, with the back of the compartment angled up to match the cab structure.</p> <p>A drop-down door with a chrome plated lift and turn latch shall be provided for access.</p> <p>The compartment shall be constructed of smooth aluminum and painted to match the cab interior.</p> <p><u>REAR FACING DRIVER SIDE OUTBOARD SEAT</u></p> <p>There shall be one (1) rear facing seat provided at the driver side outboard position in the crew cab. For optimal comfort, the seat shall be provided with 15.00" deep foam cushions designed with EVC (elastomeric vibration control).</p> <p>The seat back shall be an SCBA back style with 5 degree fixed recline angle. The SCBA cavity shall be adjustable from front to rear in 1.00" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity shall be accomplished by unbolting, relocating, and re-bolting it in the desired location.</p> <p>The seat shall include the following features incorporated into the side roll protection system:</p> <ul style="list-style-type: none"> • Side air curtain shall be mounted integral to the outboard bolster of the seat back. The air curtain shall be covered by a decorative panel when in the stowed position. • A seat safety system shall be included. When activated, this system shall pretension the seat belt. <p>The seat shall be furnished with a 3-point, shoulder type seat belt.</p> <p><u>REAR FACING PASSENGER SIDE OUTBOARD SEAT</u></p> <p>There shall be one (1) rear facing seat provided at the passenger side outboard position in the crew cab. For optimal comfort, the seat shall be provided with 15.00" deep foam cushions designed with EVC (elastomeric vibration control).</p> <p>The seat back shall be an SCBA back style with 5 degree fixed recline angle. The SCBA cavity shall be adjustable from front to rear in 1.00" increments, to accommodate different sized SCBA cylinders. Moving the SCBA cavity shall be accomplished by unbolting, relocating, and re-bolting it in the desired location.</p> <p>The seat shall include the following features incorporated into the side roll protection system:</p>		

	Bidder Complies	
	Yes	No
<ul style="list-style-type: none"> • Side air curtain shall be mounted integral to the outboard bolster of the seat back. The air curtain shall be covered by a decorative panel when in the stowed position. • A seat safety system shall be included. When activated, this system shall pretension the seat belt. <p>The seat shall be furnished with a 3-point, shoulder type seat belt.</p> <p><u>FORWARD FACING CENTER SEATS</u></p> <p>There shall be two (2) forward facing seats provided at the center position in the crew cab. For optimal comfort, the seats shall be provided with 15.00" deep foam cushions designed with EVC (elastomeric vibration control).</p> <p>The seat backs shall be an SCBA style with 90 degree back. The SCBA cavity shall be adjustable from front to rear in 1.00" increments to accommodate different sized SCBA cylinders. Moving the SCBA cavity shall be accomplished by unbolting, relocating, and re-bolting it in the desired location.</p> <p>The seat shall include the following features incorporated into the side roll protection system:</p> <ul style="list-style-type: none"> • A seat safety system shall be included. When activated, this system shall pretension the seat belt. <p>The seats shall be furnished with a 3-point, shoulder type seat belt.</p> <p><u>SEAT UPHOLSTERY</u></p> <p>All seat upholstery shall be gray woven with black water resistant material.</p> <p><u>AIR BOTTLE HOLDERS</u></p> <p>All SCBA type seats in the cab shall have a "Hands-Free" auto clamp style bracket in its backrest. For efficiency and convenience, the bracket shall include an automatic spring clamp that allows the occupant to store the SCBA bottle by simply pushing it into the seat back. For protection of all occupants in the cab, in the event of an accident, the inertial components within the clamp shall constrain the SCBA bottle in the seat and shall exceed the NFPA standard of 9G. Bracket designs with manual restraints (belts, straps, buckles) that could be inadvertently left unlocked and allow the SCBA to move freely within the cab during an accident, shall not be acceptable.</p> <p>There shall be a quantity of five (5) SCBA brackets.</p> <p><u>SEAT BELTS</u></p> <p>All seating positions shall have red seat belts. To provide quick, easy use for occupants wearing bunker gear, the female buckle and seat belt webbing length shall meet or exceed the current edition of NFPA 1901 and CAN/ULC - S515 standards.</p>		

	Bidder Complies	
	Yes	No
<p>The 3-point shoulder type seat belts shall include height adjustment. This adjustment shall optimize the belts effectiveness and comfort for the seated firefighter. The 3-point shoulder type seat belts shall be furnished with dual automatic retractors that shall provide ease of operation in the normal seating position.</p> <p>The 3-point shoulder type belts shall also include a D-loop assembly to the shoulder belt system. This feature adds an extender arm to the D-loop location placing the D-loop in a closer, easier to reach location.</p> <p>To ensure safe operation, the seats shall be equipped with seat belt sensors in the seat cushion and belt receptacle that shall activate an alarm indicating a seat is occupied but not buckled.</p> <p><u>HELMET STORAGE PROVIDED BY FIRE DEPARTMENT</u> NFPA 1901, 2016 edition, section 14.1.7.4.1 requires a location for helmet storage be provided.</p> <p>There is no helmet storage on the apparatus as manufactured. The fire department shall provide a location for storage of helmets.</p> <p><u>CAB DOME LIGHTS</u> There shall be four (4) dual LED dome lights with black bezels provided. Two (2) lights shall be mounted above the inside shoulder of the driver and officer and two (2) lights shall be installed and located, one (1) on each side of the crew cab.</p> <p>The color of the LED's shall be red and white.</p> <p>The white LED's shall be controlled by the door switches and the lens switch.</p> <p>The color LED's shall be controlled by the lens switch.</p> <p>In order to ensure exceptional illumination, each white LED dome light shall provide a minimum of 10.1 foot-candles (fc) covering an entire 20.00" x 20.00" square seating position when mounted 40.00" above the seat.</p> <p><u>PORTABLE HAND LIGHTS, PROVIDED BY FIRE DEPARTMENT</u> NFPA 1901, 2016 edition, section 5.9.4 requires two portable hand lights mounted in brackets fastened to the apparatus.</p> <p>The hand lights are not on the apparatus as manufactured. The fire department shall provide and mount these hand lights.</p>		

Bidder Complies	
Yes	No

CAB INSTRUMENTATION

The cab instrument panel shall be a molded ABS panel and include gauges, telltale indicator lamps, control switches, alarms, and a diagnostic panel. The function of the instrument panel controls and switches shall be identified by a label adjacent to each item. Actuation of the headlight switch shall illuminate the labels in low light conditions. Telltale indicator lamps shall not be illuminated unless necessary. The cab instruments and controls shall be conveniently located within the forward cab section, forward of the driver. The gauge assembly and switch panels are designed to be removable for ease of service and low cost of ownership.

GAUGES

The gauge panel shall include the following ten (10) ivory faced gauges with chrome bezels to monitor vehicle performance:

- Voltmeter gauge (volts):
 - Low volts (11.8 VDC)
 - Amber telltale light on indicator light display with steady tone alarm
 - High volts (15.5 VDC)
 - Amber telltale light on indicator light display with steady tone alarm
- Engine Tachometer (RPM)
- Speedometer KM/H (Major Scale), MPH (Minor Scale)
- Fuel level gauge (Empty - Full in fractions):
 - Low fuel (1/8 full)
 - Amber indicator light in gauge dial with steady tone alarm
- Engine Oil pressure Gauge (PSI/bar):
 - Low oil pressure to activate engine warning lights and alarms
 - Red indicator light in gauge dial with steady tone alarm
- Front Air Pressure Gauges (PSI/bar):
 - Low air pressure to activate warning lights and alarm
 - Red indicator light in gauge dial with steady tone alarm
- Rear Air Pressure Gauges (PSI/bar):
 - Low air pressure to activate warning lights and alarm
 - Red indicator light in gauge dial with steady tone alarm
- Transmission Oil Temperature Gauge (Celsius/Fahrenheit):
 - High transmission oil temperature activates warning lights and alarm
 - Amber indicator light in gauge dial with steady tone alarm
- Engine Coolant Temperature Gauge (Celsius/Fahrenheit):
 - High engine temperature activates an engine warning light and alarms
 - Red indicator light in gauge dial with steady tone alarm
- Diesel Exhaust Fluid Level Gauge (Empty - Full in fractions):

Bidder Complies	
Yes	No

- Low fluid (1/8 full)
 - Amber indicator light in gauge dial

INDICATOR LAMPS

To promote safety, the following telltale indicator lamps shall be located on the instrument panel in clear view of the driver. The indicator lamps shall be "dead-front" design that is only visible when active. The colored indicator lights shall have descriptive text or symbols.

The following amber telltale lamps shall be present:

- Low coolant
- Trac cntl (traction control) (where applicable)
- Check engine
- Check trans (check transmission)
- Air rest (air restriction)
- DPF (engine diesel particulate filter regeneration)
- HET (engine high exhaust temperature) (where applicable)
- ABS (antilock brake system)
- MIL (engine emissions system malfunction indicator lamp) (where applicable)
- Regen inhibit (engine emissions regeneration inhibit) (where applicable)
- Side roll fault (where applicable)
- Front air bag fault (where applicable)
- Aux brake overheat (auxiliary brake overheat) (where applicable)
- The following red telltale lamps shall be present:
 - Ladder rack down
 - Parking brake
 - Stop engine
- The following green telltale lamps shall be present:
 - Left turn
 - Right turn
 - Battery on
 - Ignition
 - Aux brake (auxiliary brake engaged) (where applicable)
- The following blue telltale lamps shall be present:
 - High beam

ALARMS

Audible steady tone warning alarm: A steady audible tone alarm shall be provided whenever a warning condition is active.

	Bidder Complies	
	Yes	No
<p><u>INDICATOR LAMP AND ALARM PROVE-OUT</u></p> <p>A system shall be provided which automatically tests telltale indicator lights and alarms located on the cab instrument panel. Telltale indicators and alarms shall perform prove-out for 3 to 5 seconds when the ignition switch is moved to the on position with the battery switch on.</p> <p><u>CONTROL SWITCHES</u></p> <p>For ease of use, the following controls shall be provided immediately adjacent to the cab instrument panel within easy reach of the driver. All switches shall have backlit labels for low light applications.</p> <p>Headlight/Parking light switch: A three (3)-position maintained rocker switch shall be provided. The first switch position shall deactivate all parking and headlights. The second switch position shall activate the parking lights. The third switch shall activate the headlights.</p> <p>Panel back lighting intensity control switch: A three (3)-position momentary rocker switch shall be provided. Pressing the top half of the switch, "Panel Up" increases the panel back lighting intensity and pressing the bottom half of the switch, "Panel Down" decreases the panel back lighting intensity. Pressing the half or bottom half of the switch several times shall allow back lighting intensity to be gradually varied from minimum to maximum intensity level for ease of use.</p> <p>Ignition switch: A three (3)-position maintained/momentary rocker switch shall be provided. The first switch position shall turn off and deactivate vehicle ignition. The second switch position shall activate vehicle ignition and shall perform prove-out on the telltale indicators and alarms for 3 to 5 seconds after the switch is turned on. A green indicator lamp is activated with vehicle ignition. The third momentary position shall temporarily silence all active cab alarms. An alarm "chirp" may continue as long as alarm condition exists. Switching ignition to off position shall terminate the alarm silence feature and reset function of cab alarm system.</p> <p>Engine start switch: A two (2)-position momentary rocker switch shall be provided. The first switch position is the default switch position. The second switch position shall activate the vehicle's engine. The switch actuator is designed to prevent accidental activation.</p> <p>Hazard switch shall be provided on the instrument panel or on the steering column.</p> <p>Heater and defroster controls.</p> <p>Turn signal arm: A self-canceling turn signal with high beam headlight controls.</p> <p>Windshield wiper control shall have high, low, and intermittent modes.</p> <p>Parking brake control: An air actuated push/pull park brake control.</p>		

	Bidder Complies	
	Yes	No
<p>Chassis horn control: Activation of the chassis horn control shall be provided through the center of the steering wheel.</p> <p>High idle engagement switch: A maintained rocker switch with integral indicator lamp shall be provided. The switch shall activate and deactivate the high idle function. The "OK To Engage High Idle" indicator lamp must be active for the high idle function to engage. A green indicator lamp integral to the high idle engagement switch shall indicate when the high idle function is engaged.</p> <p>"OK To Engage High Idle" indicator lamp: A green indicator light shall be provided next to the high idle activation switch to indicate that the interlocks have been met to allow high idle engagement.</p> <p>Emergency switching shall be controlled by multiple individual warning light switches for various groups or areas of emergency warning lights. An Emergency Master switch provided on the instrument panel that enables or disables all individual warning light switches is included.</p> <p>An additional "Emergency Master" button shall be provided on the lower left hand corner of the gauge panel to allow convenient control of the "Emergency Master" system from inside the driver's door when standing on the ground.</p> <p><u>CUSTOM SWITCH PANELS</u></p> <p>The design of cab instrumentation shall allow for emergency lighting and other switches to be placed within easy reach of the operator thus improving safety. There shall be positions for up to four (4) switch panels in the lower instrument console and up to six (6) switch panels in the overhead visor console. All switches have backlit labels for low light conditions.</p> <p><u>DIAGNOSTIC PANEL</u></p> <p>A diagnostic panel shall be provided and accessible while standing on the ground. The panel shall be located inside the driver's side door left of the steering column. The diagnostic panel shall allow diagnostic tools such as computers to connect to various vehicle systems for improved troubleshooting providing a lower cost of ownership. Diagnostic switches shall allow ABS systems to provide blink codes should a problem exist.</p> <p>The diagnostic panel shall include the following:</p> <ul style="list-style-type: none"> • ENGINE/TRANSMISSION/ABS J1939 Diagnostic Port • ABS Diagnostic Switch and Indicator - The switch and amber indicator shall allow access to diagnostic mode and display of standard ABS system fault blink codes that may be generated by the ABS system 		

Bidder Complies	
Yes	No

- DPF REGEN (Diesel Particulate Filter Regeneration Switch) (where applicable) shall be provided to request regeneration of the engine emission system. An amber indicator shall be provided on top of the switch that shall illuminate in a "CHECK ENGINE" condition
- REGEN INHIBIT (Diesel Particulate Filter Regeneration Inhibit Switch) (where applicable) shall be provided that shall request that regeneration be temporarily prevented. A green indicator shall be provided on top of the Regen Inhibit switch that shall illuminate when the Regen Inhibit feature is active. Regen Inhibit shall be disabled upon cycling of the ignition switch to the off state.

AIR RESTRICTION INDICATOR

A high air restriction warning indicator light (electronic) shall be provided.

"DO NOT MOVE APPARATUS" INDICATOR

A flashing red indicator light, located in the driving compartment, shall be illuminated automatically per the current NFPA requirements. The light shall be labeled "Do Not Move Apparatus If Light Is On."

The same circuit that activates the Do Not Move Apparatus indicator shall activate a pulsing alarm when the parking brake is released.

WIPER CONTROL

Wiper control shall consist of a two (2)-speed windshield wiper control with intermittent feature and windshield washer controls.

SPARE CIRCUIT

There shall be two (2) pair of wires, including a positive and a negative, installed on the apparatus.

The above wires shall have the following features:

- The positive wire shall be connected directly to the battery power
- The negative wire shall be connected to ground
- Wires shall be protected to 15 amps at 12 volts DC
- Power and ground shall terminate officer side dash area
- Termination shall be with 15 amp, power point plug with rubber cover
- Wires shall be sized to 125 percent of the protection

The circuit(s) may be load managed when the parking brake is set.

VEHICLE DATA RECORDER

There shall be a vehicle data recorder (VDR) capable of reading and storing vehicle information provided.

	Bidder Complies	
	Yes	No
<p>The information stored on the VDR can be downloaded through a USB port mounted in a convenient location determined by cab model. A USB cable can be used to connect the VDR to a laptop to retrieve required information. The program to download the information from the VDR will be available to download on-line.</p> <p>The vehicle data recorder shall be capable of recording the following data via hardwired and/or CAN inputs:</p> <ul style="list-style-type: none"> • Vehicle Speed - MPH • Acceleration - MPH/sec • Deceleration - MPH/sec • Engine Speed - RPM • Engine Throttle Position - % of Full Throttle • ABS Event - On/Off • Seat Occupied Status - Yes/No by Position • Seat Belt Buckled Status - Yes/No by Position • Master Optical Warning Device Switch - On/Off • Time - 24 Hour Time • Date - Year/Month/Day <p><u>Seat Belt Monitoring System</u></p> <p>A seat belt monitoring system (SBMS) shall be provided. The SBMS shall be capable of monitoring up to 10 seating positions indicating the status of each seat position per the following:</p> <ul style="list-style-type: none"> • Seat Occupied & Buckled = Green LED indicator illuminated • Seat Occupied & Unbuckled = Red LED indicator with audible alarm • No Occupant & Buckled = Red LED indicator with audible alarm • No Occupant & Unbuckled = No indicator and no alarm <p>The SBMS shall include an audible alarm that shall warn that an unbuckled occupant condition exists and the parking brake is released, or the transmission is not in park.</p> <p><u>RADIO ANTENNA MOUNT</u></p> <p>There shall be one (1) standard 1.125", 18 thread antenna-mounting base(s) installed on the right side on the cab roof with high efficiency, low loss, coaxial cable(s) routed to the instrument panel area. A weatherproof cap shall be installed on the mount.</p> <p><u>ELECTRICAL POWER CONTROL SYSTEM</u></p> <p>A compartment shall be provided in or under the cab to house the vehicle's electrical power and signal circuit protection and control components. The power and signal protection and control</p>		

	Bidder Complies	
	Yes	No
<p>compartment shall contain circuit protection devices and power control devices. Power and signal protection and control components shall be protected against corrosion, excessive heat, excessive vibration, physical damage and water spray.</p> <p>Serviceable components shall be readily accessible.</p> <p>Circuit protection devices, which conform to SAE standard, shall be utilized to protect each circuit. All circuit protection devices shall be sized to prevent wire and component damage when subjected to extreme current overload. General protection circuit breakers shall be Type-I automatic reset (continuously resetting) and conform to SAE J553 or J258. When required, automotive type fuses conforming to SAE J554, J1284, J1888 or J2077 shall be utilized to protect electronic equipment.</p> <p>Power control relays and solenoids shall have a direct current (dc) rating of 125 percent of the maximum current for which the circuit is protected.</p> <p>Visual status indicators shall be supplied to identify control safety interlocks and vehicle status. In addition to visual status indicators, audible alarms designed to provide early warning of problems before they become critical shall be used.</p> <p><u>VOLTAGE MONITOR SYSTEM</u></p> <p>A voltage monitor system shall be provided to indicate the status of each battery system connected to the vehicle's electrical load. The monitor system shall provide visual and audio warning when the system voltage is above or below optimum levels.</p> <p><u>POWER AND GROUND STUDS</u></p> <p>Spare circuits shall be provided in the primary distribution center for two-way radio equipment.</p> <p>The spare circuits shall consist of the following:</p> <ul style="list-style-type: none"> • One (1) 12-volt DC, 30 amp battery direct spare • One (1) 12-volt DC ground and un-fused switched battery stud located in or adjacent to the power distribution center <p><u>EMI/RFI PROTECTION</u></p> <p>The electrical system proposed shall include means to control undesired electromagnetic and radio frequency emissions. State of the art electrical system design and components shall be used to ensure radiated and conducted EMI (electromagnetic interference) and RFI (radio frequency interference) emissions are suppressed at their source.</p> <p>The apparatus proposed shall have the ability to operate in the electromagnetic environment typically found in fire ground operations. The contractor shall be able to demonstrate the EMI</p>		

	Bidder Complies	
	Yes	No
<p>and RFI testing has been done on similar apparatus and certifies that the vehicle proposed meets SAE J551 requirements.</p> <p>EMI/RFI susceptibility shall be controlled by applying immune circuit designs, shielding, twisted pair wiring and filtering. The electrical system shall be designed for full compatibility with low level control signals and high powered two-way radio communication systems. Harness and cable routing shall be given careful attention to minimize the potential for conducting and radiated EMI-RFI susceptibility.</p> <p><u>ELECTRICAL</u></p> <p>All 12-volt electrical equipment installed by the apparatus manufacturer shall conform to modern automotive practices. All wiring shall be high temperature crosslink type. Wiring shall be run, in loom or conduit, where exposed and have grommets where wire passes through sheet metal. Automatic reset circuit breakers shall be provided which conform to SAE Standards. Wiring shall be color, function and number coded. Function and number codes shall be continuously imprinted on all wiring harness conductors at 2.00" intervals. Exterior exposed wire connectors shall be positive locking, and environmentally sealed to withstand elements such as temperature extremes, moisture and automotive fluids.</p> <p>Electrical wiring and equipment shall be installed utilizing the following guidelines:</p> <ol style="list-style-type: none"> 1. All holes made in the roof shall be caulked with silicon, rope caulk is not acceptable. Large fender washers, liberally caulked, shall be used when fastening equipment to the underside of the cab roof. 2. Any electrical component that is installed in an exposed area shall be mounted in a manner that shall not allow moisture to accumulate in it. Exposed area shall be defined as any location outside of the cab or body. 3. Electrical components designed to be removed for maintenance shall not be fastened with nuts and bolts. Metal screws shall be used in mounting these devices. Also a coil of wire shall be provided behind the appliance to allow them to be pulled away from mounting area for inspection and service work. 4. Corrosion preventative compound shall be applied to all terminal plugs located outside of the cab or body. All non-waterproof connections shall require this compound IN the plug to prevent corrosion and for easy separation (of the plug). 5. All lights that have their sockets in a weather exposed area shall have corrosion preventative compound added to the socket terminal area. 6. All electrical terminals in exposed areas shall have silicon (1890) applied completely over the metal portion of the terminal. <p>All lights and reflectors, required to comply with Federal Motor Vehicle Safety Standard #108, shall be furnished. Rear identification lights shall be recessed mounted for protection. Lights and</p>		

	Bidder Complies	
	Yes	No
<p>wiring mounted in the rear bulkheads shall be protected from damage by installing a false bulkhead inside the rear compartments.</p> <p>An operational test shall be conducted to ensure that any equipment that is permanently attached to the electrical system is properly connected and in working order.</p> <p>The results of the tests shall be recorded and provided to the purchaser at time of delivery.</p> <p><u>BATTERY SYSTEM</u></p> <p>There shall be four (4) 12 volt batteries that include the following features shall be provided:</p> <ul style="list-style-type: none"> • 950 CCA, cold cranking amps • 190 amp reserve capacity • High cycle • Group 31 • Rating of 3800 CCA at 0 degrees Fahrenheit • 760 minutes of reserve capacity • Threaded stainless steel studs <p>Each battery case shall be a black polypropylene material with a vertically ribbed container for increased vibration resistance. The cover shall be manifold vented with a central venting location to allow a 45 degree tilt capacity.</p> <p>The inside of each battery shall consist of a "maintenance free" grid construction with poly wrapped separators and a flooded epoxy bottom anchoring for maximum vibration resistance.</p> <p><u>BATTERY SYSTEM</u></p> <p>There shall be a single starting system with an ignition switch and starter button provided and located on the cab instrument panel.</p> <p><u>MASTER BATTERY SWITCH</u></p> <p>There shall be a master battery switch provided within the cab within easy reach of the driver to activate the battery system.</p> <p>An indicator light shall be provided on the instrument panel to notify the driver of the status of the battery system.</p> <p><u>BATTERY COMPARTMENTS</u></p> <p>Batteries shall be placed on non-corrosive mats and be stored in well ventilated compartments located under the cab.</p> <p>Heavy-duty battery cables shall be used to provide maximum power to the electrical system. Cables shall be color coded.</p>		

	Bidder Complies	
	Yes	No
<p>Battery terminal connections shall be coated with anti-corrosion compound. Battery solenoid terminal connections shall be encapsulated with semi-permanent rubberized compound.</p> <p><u>JUMPER STUDS</u> One (1) set of battery jumper studs with plastic color-coded covers shall be included on the battery compartments.</p> <p><u>BATTERY CHARGER</u> There shall be a battery charger with controller provided.</p> <p>The battery charger shall be wired to the AC shoreline inlet through an AC receptacle adjacent to this battery charger.</p> <p>There shall be a remote indicator included.</p> <p>Battery charger shall be located in the cab behind the driver seat</p> <p>The battery charger indicator shall be located behind the driver's door on the outside of the cab.</p> <p><u>AUTO EJECT FOR SHORELINE</u> There shall be one (1) 20 amp 120 volt AC shoreline inlet(s) provided to operate the dedicated 120 volt AC circuits on the apparatus.</p> <p>The shoreline inlet(s) shall include red weatherproof flip up cover(s).</p> <p>There shall be a release solenoid wired to the vehicle's starter to eject the AC connector when the engine is starting.</p> <p>The shoreline(s) shall be connected to the battery charger.</p> <p>There shall be a mating connector body supplied with the loose equipment.</p> <p>There shall be a label installed near the inlet(s) that state the following:</p> <ul style="list-style-type: none"> • Line Voltage • Current Rating (amps) • Phase • Frequency <p>The shoreline receptacle shall be located on the driver side of cab, above wheel.</p> <p><u>ELECTRIC POWER FOR WINCH</u> Electric power provisions shall be furnished for the portable winch from the chassis battery system.</p>		

	Bidder Complies	
	Yes	No
<p>The receiver plug shall be located at all receiver locations.</p> <p>A total quantity of three (3) receptacles shall be provided.</p> <p><u>ALTERNATOR</u></p> <p>An alternator shall be provided that has a rated output current of 320 amps, as measured by SAE method J56. The alternator shall feature an integral regulator and rectifier system that has been tested and qualified to an ambient temperature of 257 degrees Fahrenheit (125 degrees Celsius). The alternator shall be connected to the power and ground distribution system with heavy-duty cables sized to carry the full rated alternator output.</p> <p><u>DUAL USB SOCKET</u></p> <p>There shall be one (1) dual USB type A charger sockets installed officer side of engine tunnel.. Power shall be directly to the battery power.</p> <p><u>ELECTRONIC LOAD MANAGEMENT</u></p> <p>An electronic load management (ELM) system shall be provided that monitors the vehicles 12-volt electrical system, and automatically reduces the electrical load in the event of a low voltage condition and by doing so, ensures the integrity of the electrical system.</p> <p>The ELM shall monitor the vehicle's voltage while at the scene (parking brake applied). It shall sequentially shut down individual electrical loads when the system voltage drops below a preset value. Two (2) separate electrical loads shall be controlled by the load manager. The ELM shall sequentially re-energize electrical loads as the system voltage recovers.</p> <p><u>HEADLIGHTS</u></p> <p>There shall be four (4) rectangular halogen lights mounted in the front quad style, chrome housing on each side of the cab grille:</p> <ul style="list-style-type: none"> • The outside light on each side shall contain a halogen low and high beam module. • The inside light on each side shall contain a halogen high beam module only. <p><u>DIRECTIONAL LIGHTS</u></p> <p>There shall be two (2) amber LED populated arrow directional lights provided on the front of the cab, above the headlights. Each light shall be housed in the same quad common bezel as the front warning light. The [Color, Lens, LED's].</p> <p><u>INTERMEDIATE LIGHT</u></p> <p>There shall be two (2) amber LED turn signal marker lights furnished, one (1) each side, in the rear fender panel. The light shall double as a turn signal and marker light.</p>		

Bidder Complies	
Yes	No

CAB CLEARANCE/MARKER/ID LIGHTS

There shall be five (5) amber LED lights provided to indicate the presence and overall width of the vehicle in the following locations:

- Three (3) amber LED identification lights shall be installed in the center of the cab above the windshield.
- Two (2) amber LED clearance lights shall be installed, one (1) on each outboard side of the cab above the windshield.

FRONT CAB SIDE DIRECTIONAL/MARKER LIGHTS

There shall be two (2) amber LED lights installed front of the cab door, one (1) on each side of the cab.

The lights shall activate as marker lights with the headlight switch and directional lights with the corresponding directional circuit.

REAR CLEARANCE/MARKER/ID LIGHTING

There shall be a three (3) LED light bar used as identification lights located at the rear of the apparatus per the following:

- As close as practical to the vertical centerline
- Centers spaced not less than 6.00" or more than 12.00" apart
- Red in color
- All at the same height

There shall be two (2) LED lights installed at the rear of the apparatus used as clearance lights located at the rear of the apparatus per the following:

- To indicate the overall width of the vehicle
- One (1) each side of the vertical centerline
- As near the top as practical
- Red in color
- To be visible from the rear
- All at the same height

There shall be two (2) LED lights installed on the side of the apparatus used as marker lights as close to the rear as practical per the following:

- To indicate the overall length of the vehicle
- One (1) each side of the vertical centerline
- As near the top as practical
- Red in color

	Bidder Complies	
	Yes	No
<ul style="list-style-type: none"> • To be visible from the side • All at the same height <p>There shall be two (2) red reflectors located on the rear of the truck facing to the rear. One (1) each side, as far to the outside as practical, at a minimum of 15.00", but no more than 60.00", above the ground.</p> <p>There shall be two (2) red reflectors located on the side of the truck facing to the side. One (1) each side, as far to the rear as practical, at a minimum of 15.00", but no more than 60.00", above the ground.</p> <p>Per FMVSS 108 and CMVSS 108 requirements.</p> <p><u>REAR FMVSS LIGHTING</u></p> <p>The rear stop/tail and directional LED lighting shall consist of the following:</p> <ul style="list-style-type: none"> • Two (2) red LED stop/tail lights • Two (2) amber LED arrow turn lights <p>The lights shall be provided with color lenses.</p> <p>Each light shall be installed separately at the rear with chrome flanges.</p> <p>Two (2) LED backup lights, shall be provided with a flange.</p> <p><u>LICENSE PLATE BRACKET</u></p> <p>There shall be one (1) license plate bracket mounted on the rear of the body.</p> <p>A white LED light shall illuminate the license plate. A polished stainless steel light shield shall be provided over the light that shall direct illumination downward, preventing white light to the rear.</p> <p><u>BACK-UP ALARM</u></p> <p>A solid-state electronic audible back-up alarm that actuates when the truck is shifted into reverse shall be provided. The device shall sound at 60 pulses per minute and automatically adjust its volume to maintain a minimum ten (10) dBA above surrounding environmental noise levels.</p> <p><u>CAB PERIMETER SCENE LIGHTS</u></p> <p>There shall be four (4) 20.00" white LED strip lights provided, one (1) for each cab door.</p> <p>These lights shall be activated automatically when the battery switch is on and the exit doors are opened or by the same means as the body perimeter scene lights.</p>		

	Bidder Complies	
	Yes	No
<p><u>BODY PERIMETER SCENE LIGHTS</u></p> <p>There shall be two (2) 20.00" 12 volt DC LED strip lights provided at the rear step area of the body, one (1) each side shining to the rear.</p> <p>The perimeter scene lights shall be activated when the parking brake is applied.</p> <p><u>STEP LIGHTS</u></p> <p>Step lights shall be provided both at the rear of the body and in the recessed walkway on the roof of the body. All step lights shall be white LED lights.</p> <p>There shall be one (1) step light provided on each side of the tailboard at the rear of the body.</p> <p>There shall be one (1) chrome plated hooded step light provided every 4' in the recessed walkway.</p> <p>Additional step lights shall be installed under the following conditions:</p> <ul style="list-style-type: none"> • If a roof access ladder is installed on the rear of the apparatus, there shall be one (1) step light installed at the top of the each roof access ladder. • If an integral rear stairway is provided, there shall be one (1) step light provided for each step in the stairway. <p>In order to ensure exceptional illumination, each light shall provide a minimum of 25 foot-candles (fc) covering an entire 15.00" x 15.00" square placed 10.00" below the light and a minimum of 1.5 fc covering an entire 30.00" x 30.00" square at the same 10.00" distance below the light.</p> <p>The step lights shall be activated when the parking brake is applied and deactivated when the parking brake is released.</p> <p>All other steps on the apparatus shall be illuminated per the current edition of NFPA 1901.</p> <p><u>12 VOLT LIGHTING</u></p> <p>There shall be two (2) 12 volt surface mounted LED combination spot/flood light(s) located Driver side of body, front and rear corner, inboard the Whelen M9 warning light. The lights shall be mounted with chrome flange(s).</p> <p>The light(s) selected above shall be controlled by the following:</p> <ul style="list-style-type: none"> • a switch at the driver's side switch panel • no additional switch location • no additional switch location • no additional switch location 		

	Bidder Complies	
	Yes	No
<p>These light(s) may be load managed when the parking brake is set.</p> <p><u>12 VOLT LIGHTING</u></p> <p>There shall be two (2) 12 volt surface mounted LED combination spot/flood light(s) located Rear of body, one each side, mid height. . The lights shall be mounted with chrome flange(s).</p> <p>The light(s) selected above shall be controlled by the following:</p> <ul style="list-style-type: none"> • a switch at the driver's side switch panel • no additional switch location • no additional switch location • no additional switch location <p>These light(s) may be load managed when the parking brake is set.</p> <p><u>12 VOLT LIGHTING</u></p> <p>There shall be two (2) 12 volt surface mounted LED combination spot/flood light(s) located Passenger side of body, front and rear corner, inboard the Whelen M9 warning light. The lights shall be mounted with chrome flange(s).</p> <p>The light(s) selected above shall be controlled by the following:</p> <ul style="list-style-type: none"> • a switch at the driver's side switch panel • no additional switch location • no additional switch location • no additional switch location <p>These light(s) may be load managed when the parking brake is set.</p> <p><u>12 VOLT LIGHTING</u></p> <p>There shall be one (1) 16,200 lumens 12 volt DC LED light(s) provided on the front visor, centered.</p> <p>The painted parts of this light assembly to be white.</p> <p>The light(s) shall be controlled by a switch at the driver's side switch panel.</p> <p>These light(s) may be load managed when the parking brake is applied.</p> <p><u>HEAVY DUTY RESCUE BODY CONSTRUCTION</u></p> <p>The body shall be built as a separate module prior to being mounted onto the substructure. The rescue body shall be constructed of 5052 aluminum. The structural support framing and the gussets used shall be of 2.00" (51 mm) square 0.125" (3 mm) wall 6061 aluminum alloy tubing. All exterior body corners shall be 3.00" (76 mm) radius aluminum, corrosion resistant alloy 6061</p>		

	Bidder Complies	
	Yes	No
<p>extrusions. Spacing of the 2.00" (51 mm) vertical supports shall not exceed 14.00" (356 mm) on center. The roof and corner extrusions shall be reinforced with interconnecting gusset supports at all stress points. The body shall be properly welded into a unitized construction. Proper reinforcing and supports shall be utilized throughout the entire construction process to ensure strength and rigidity.</p> <p>The body shall be supported by 2.00" (51 mm) x 2.00" (51 mm) x 0.25" (6 mm) wall aluminum tubing. The cross sill tubes shall be spaced approximately 15.00" (381 mm) on center and interconnected to the body from front to rear.</p> <p>A 1.00" (25 mm) x 3.00" (76 mm) aluminum bar shall be used as a stringer and shall be welded to the cross sills. The stringer shall be used to mount the body to the chassis frame rails.</p> <p><u>ROOF CONSTRUCTION</u></p> <p>The roof shall be integral with the body construction. The roof shall be constructed of 0.125" (3 mm) bright aluminum treadplate and supported by 2.00" (51 mm) square 0.125" (3 mm) wall tubing welded in place approximately 12.00" (305 mm) on center. The roof shall be further reinforced with 2.00" (51 mm) square gussets welded approximately every 48.00" (1219 mm). The roof perimeters shall be constructed of a 3.00" (76 mm) radius extrusion with an integral drip molding. The roof extrusion shall also have an inset allowing the roof panel to be recessed into the extrusion giving further support and sealing effect at the outside edge.</p> <p>The roof panel shall be welded to the roof extrusions and supports. All roof seams shall be continuously welded.</p> <p><u>BODY AND COMPARTMENT SUPPORT</u></p> <p>The substructure for the body shall not be integral with the body but shall be a separate assembly.</p> <p>The bottom of each lower compartment floor shall be supported by an under slung steel angle grid that shall be bolted to the chassis frame rails with grade 8 bolts in order to transfer major stress to the chassis frame and not through the body. The under slung support shall be constructed of 0.50" (13 mm) x 2.50" (64 mm) x 2.50" (64 mm) steel angle vertical supports. Horizontal members shall be 0.38" (10 mm) x 2.00" (51 mm) x 3.00" (76 mm) and 0.38" (10 mm) x 2.50" (64 mm) x 3.50" (89 mm) steel angle.</p> <p>The complete substructure shall be washed, primed and finish painted before being bolted to the chassis frame. A rubber coating shall be applied over the painted under slung support structure for an additional corrosion barrier.</p>		

	Bidder Complies	
	Yes	No
<p>A 3.00" (76 mm) x 0.75" (19 mm) rubber liner shall be placed on top of the chassis frame rails. The liner shall be used to prevent metal to metal contact where the body stringer rests on the chassis frame rails.</p> <p>The compartment floors shall be bolted to the under slung substructure and the body shall be secured to the chassis frame by a minimum of four (4) tie-down assemblies. Each tie-down assembly shall consist of two (2) 2.00" (51 mm) x 6.25" (159 mm) x 0.75" (19 mm) steel plates and two (2) 14.00" (356 mm) long, 0.50" (13 mm) diameter steel rods. The tie-downs shall be easily accessible so that the body may be removed.</p> <p><u>BODY LENGTH</u> The length of the body shall be 221.00" (5,613 mm).</p> <p><u>BODY WIDTH</u> The width of the body shall be 96.00" (2,438 mm).</p> <p><u>Compartment Depth</u></p> <p><u>Standard Depth</u> All standard depth side body compartments shall measure 28.00" (711 mm) deep from the outside of the body to the rear compartment wall. The usable depth inside each side body compartment shall be 26.00" (660 mm) deep.</p> <p><u>Transverse</u> All transverse side body compartments shall have a usable depth of 26.00" (660 mm) at the floor level. These compartments shall extend over the frame rails through to the other side of the body.</p> <p><u>BODY HEIGHT</u> The height of the body shall be 90.00" (2,286 mm) without any roof mounted options.</p> <p><u>ROOF CONFIGURATION</u> The roof of the body shall be configured with side hatch compartments, a recessed walkway, and a recessed area for mounting equipment. The recessed area shall be located at the front of the body. The side hatch compartments and the recessed walkway shall be located rearward of the recessed area.</p> <p>The side hatch compartments shall run the length of the body on both sides from the rear up to the recessed area. The side hatch compartments shall be provided in the following configuration:</p> <ul style="list-style-type: none"> • There shall be two (2) hatch compartments of equal size on each side of the roof. <p>The recessed walkway shall be centered between the hatch compartments, running the length of the body up to the recessed area.</p>		

Bidder Complies	
Yes	No

Recessed Area

The recessed area shall be constructed of 0.125" (3 mm) aluminum treadplate and shall have two (2) 1.00" (25 mm) diameter drain holes. The drains shall be routed to drain below the body.

The recessed area shall be sized appropriately in order to allow proper mounting space and clearance for all roof mounted equipment where the designated mounting location is the recess on the roof of the body. The maximum allowable depth of the recessed area shall be equal to the depth of the recessed walkway. The recess shall be configured so that whenever possible, items mounted in the recess shall stow below the roof line of the body. If a piece of equipment is taller than the maximum depth of the recess, that item may protrude above the roof line.

Hatch Compartments

All compartment doors shall be designed to hinge on the outboard side and shall be held open with gas cylinder struts.

The outside walls of the compartments shall be a double wall design to prevent equipment from denting the outside painted surface.

A 1.00" (25 mm) diameter drain shall be provided on the floor of each compartment. The drains shall be routed to drain below the body.

Size of Hatch Compartments

The clear width of the side hatch compartments shall be 26.50" (673 mm) wide.

The clear depth inside the hatch compartments differs depending on the height of the body. The clear depth inside each hatch compartment shall be as follows:

Inside Depth of All Hatch Compartments According to Body Height	
Body Height	Inside Depth of Hatch Compartments
90.00" (2,286 mm)	16.50" (419 mm)
98.00" (2,489 mm)	24.50" (622 mm)

Recessed Walkway

The recessed walkway shall be 30.00" (762 mm) wide. The depth of the walkway shall be equal to the depth of the hatch compartments. The walkway shall be constructed of aluminum treadplate and reinforced with 0.125" (3 mm) thick, 2.00" (51 mm) square aluminum tubing on 12.00" (305 mm) centers.

The treadplate in the walkway shall be formed up 90 degrees at least 2.00" (51 mm) on each side to form a double 0.125" (3 mm) vertical wall for a water tight seal.

	Bidder Complies	
	Yes	No
<p>There shall be two (2) 1.00" (25 mm) diameter drain holes provided in the walkway. The drains shall be routed to drain below the body.</p> <p><u>ROLL-UP DOOR, SIDE COMPARTMENTS</u></p> <p>There shall be eight (8) compartment doors installed on the side compartments, double faced, aluminum construction, painted one (1) color to match the lower portion of the body.</p> <p>Lath sections shall be an interlocking rib design and shall be individually replaceable without complete disassembly of the door.</p> <p>Between each slat at the pivoting joint shall be a PVC inner seal to prevent metal to metal contact and prevent dirt or moisture from entering the compartments. Seals shall allow door to operate in extreme temperatures ranging from 180 to -40 degrees Fahrenheit (82 to -40 degrees Celsius). Side, top and bottom seals shall be provided to resist ingress of dirt and weather.</p> <p>All hinges, barrel clips and end pieces shall be nylon 66. All nylon components shall withstand temperatures from 300 to -40 degrees Fahrenheit (149 to -40 degrees Celsius). Hardened plastic shall not be acceptable.</p> <p>A polished stainless steel lift bar to be provided for each roll-up door. The lift bar shall be located at the bottom of door and have latches on the outer extrusion of the doors frame. A ledge shall be supplied over lift bar for additional area to aid in closing the door.</p> <p>Door(s) shall be constructed from an aluminum box section. The exterior surface of each slat shall be flat. The interior surfaces shall be concave to provide strength and prevent loose equipment from jamming the door from inside.</p> <p>To conserve space in the compartment(s), the spring roller assembly shall not exceed 3.00" (76 mm) in diameter. A roll-up door that retracts below the compartment ceiling (garage door style) shall not be acceptable.</p> <p>The header for the roll-up door assembly shall not exceed 4.00" (102 mm).</p> <p>A heavy-duty magnetic switch shall be used for control of open compartment door warning lights.</p> <p><u>EXTERIOR COMPARTMENTS</u></p> <p>The exterior compartment layout, dimensions and requirements shall be minimum specifications. The doors shall be able to withstand years of rugged service and wear. For this reason, the compartment door design, metal thickness and attachments shall be strictly adhered to. The compartment shall be constructed of 0.125" (3 mm)-corrosion resistant aluminum alloy, including all interior panels, floor and sides. The assemblies shall be held inside fixtures while being welded.</p>		

	Bidder Complies	
	Yes	No
<p>Compartment flooring shall be of the sweep out design with the floor higher than the compartment door frame. All compartments shall be supported on top, rear and bottom. The rear wall of each exterior compartment shall be welded to the cross sills. Drip protection shall be provided over all door openings with an integral roof extrusion or aluminum extrusion.</p> <p><u>WHEEL WELLS</u></p> <p>The rear fenders shall be an integral part of the body sides and compartments. The inside of the fender shall be fitted with a full circular inner fender liner. All screws and bolts, which protrude into a compartment, shall have acorn nuts attached.</p> <p><u>LEFT FORWARD COMPARTMENTS</u></p> <p><u>First Compartment</u></p> <p>The first compartment shall be located directly behind the cab. The compartment dimensions shall be 50.50" (1283 mm) wide x 66.88" (1699 mm) high. The compartment shall be transverse, extending through to the other side of the body. The area over the frame rails shall be 50.50" (1283 mm) wide x 49.25" (1251 mm) high. The compartment door frame opening shall be 48.00" (1219 mm) wide x 64.00" (1626 mm) high. The compartment clear door opening shall be 45.50" (1156 mm) wide x 58.00" (1473 mm) high.</p> <p><u>Second Compartment</u></p> <p>The second compartment shall be located behind the first compartment and directly ahead of the rear wheels. The compartment dimensions shall be 50.88" (1292 mm) wide x 66.88" (1699 mm) high. The compartment shall be transverse, extending through to the other side of the body. The area over the frame rails shall be 50.88" (1292 mm) wide x 49.25" (1251 mm) high. The compartment door frame opening shall be 48.00" (1219 mm) wide x 64.00" (1626 mm) high. The compartment clear door opening shall be 45.50" (1156 mm) wide x 58.00" (1473 mm) high.</p> <p><u>Compartment Loading</u></p> <p>Each compartment shall be capable of holding 1,100 lb (499 kg). The area over the frame rails in each compartment shall be capable of holding an additional 1,000 lb (454 kg).</p> <p><u>LEFT OVER WHEEL COMPARTMENT</u></p> <p>A compartment with a full height roll-up door shall be provided above the rear wheels. The compartment dimensions shall be 62.50" (1588 mm) wide x 39.13" (994 mm) high. The compartment door frame opening shall be 57.00" (1448 mm) wide x 36.25" (921 mm) high. The compartment clear door opening shall be 54.50" (1384 mm) wide x 31.25" (794 mm) high.</p> <p><u>Compartment Loading</u></p> <p>The compartment shall be capable of holding 1200 lb (545 kg).</p>		

	Bidder Complies	
	Yes	No
<p><u>LEFT REAR SIDE COMPARTMENT</u></p> <p>The left rear side compartment shall be located directly behind the rear wheels. The compartment dimensions shall be 50.50" (1283 mm) wide x 66.88" (1699 mm) high. The compartment door frame opening shall be 48.00" (1219 mm) wide x 64.00" (1626 mm) high. The compartment clear door opening shall be 45.50" (1156 mm) wide x 58.00" (1473 mm) high.</p> <p><u>Compartment Loading</u></p> <p>The compartment shall be capable of holding 1,100 lb (499 kg).</p> <p><u>RIGHT FORWARD COMPARTMENTS</u></p> <p><u>First Compartment</u></p> <p>The first compartment shall be located directly behind the cab. The compartment dimensions shall be 50.50" (1283 mm) wide x 66.88" (1699 mm) high. The compartment shall be transverse, extending through to the other side of the body. The area over the frame rails shall be 50.50" (1283 mm) wide x 49.25" (1251 mm) high. The compartment door frame opening shall be 48.00" (1219 mm) wide x 64.00" (1626 mm) high. The compartment clear door opening shall be 45.50" (1156 mm) wide x 58.00" (1473 mm) high.</p> <p><u>Second Compartment</u></p> <p>The second compartment shall be located behind the first compartment and directly ahead of the rear wheels. The compartment dimensions shall be 50.88" (1292 mm) wide x 66.88" (1699 mm) high. The compartment shall be transverse, extending through to the other side of the body. The area over the frame rails shall be 50.88" (1292 mm) wide x 49.25" (1251 mm) high. The compartment door frame opening shall be 48.00" (1219 mm) wide x 64.00" (1626 mm) high. The compartment clear door opening shall be 45.50" (1156 mm) wide x 58.00" (1473 mm) high.</p> <p><u>Compartment Loading</u></p> <p>Each compartment shall be capable of holding 1,100 lb (499 kg). The area over the frame rails in each compartment shall be capable of holding an additional 1,000 lb (454 kg).</p> <p><u>RIGHT OVER WHEEL COMPARTMENT</u></p> <p>A compartment with a full height roll-up door shall be provided above the rear wheels. The compartment dimensions shall be 62.50" (1588 mm) wide x 39.13" (994 mm) high. The compartment door frame opening shall be 57.00" (1448 mm) wide x 36.25" (921 mm) high. The compartment clear door opening shall be 54.50" (1384 mm) wide x 31.25" (794 mm) high.</p> <p><u>Compartment Loading</u></p> <p>The compartment shall be capable of holding 600 lb (545 kg).</p>		

	Bidder Complies	
	Yes	No
<p><u>RIGHT REAR SIDE COMPARTMENT</u></p> <p>The right rear side compartment shall be located directly behind the rear wheels. The compartment dimensions shall be 50.50" (1283 mm) wide x 66.88" (1699 mm) high. The compartment door frame opening shall be 48.00" (1219 mm) wide x 64.00" (1626 mm) high. The compartment clear door opening shall be 45.50" (1156 mm) wide x 58.00" (1473 mm) high.</p> <p><u>Compartment Loading</u></p> <p>The compartment shall be capable of holding 1,100 lb (499 kg).</p> <p><u>REAR COMPARTMENT</u></p> <p><u>Roll-Up Door</u></p> <p>A roll-up door shall be installed on the rear compartment that is an anodized satin finish. The door shall be double faced aluminum construction.</p> <p>Lath sections shall be an interlocking rib design and shall be individually replaceable without complete disassembly of the door.</p> <p>Between each slat at the pivoting joint shall be a PVC inner seal to prevent metal to metal contact and prevent dirt or moisture from entering the compartments. Seals shall allow door to operate in extreme temperatures ranging from plus 180 to minus 40 degrees Fahrenheit. Side, top and bottom seals shall be provided to resist ingress of dirt and weather.</p> <p>All hinges, barrel clips and end pieces shall be nylon 66. All nylon components shall withstand temperatures from plus 300 to minus 40 degrees Fahrenheit. Hardened plastic shall not be acceptable.</p> <p>A polished stainless steel lift bar to be provided for each roll-up door. The lift bar shall be located at the bottom of door and have latches on the outer extrusion of the doors frame. A ledge shall be supplied over lift bar for additional area to aid in closing the door.</p> <p>The door shall be constructed from an aluminum box section. The exterior surface of each slat shall be flat. The interior surfaces shall be concave to provide strength and prevent loose equipment from jamming the door from inside.</p> <p>To conserve space in the compartments, the spring roller assembly shall not exceed 3.00" (76 mm) in diameter. A roll-up door that retracts below the compartment ceiling (garage door style) shall not acceptable.</p> <p>The header for the roll-up door assembly shall not exceed 4.00" (102 mm).</p> <p>A heavy-duty magnetic switch shall be used for control of the interior compartment lights and the "open compartment door" warning light in the cab.</p>		

	Bidder Complies	
	Yes	No
<p><u>Compartment Size</u> The rear compartment shall be 40.00" (1016 mm) wide x 67.00" (1702 mm) high x 26.00" (660 mm) deep at the floor level. The area over the frame rails shall be 114.50" (2908 mm) deep. The compartment door frame opening shall be 40.00" (1016 mm) wide x 64.00" (1626 mm) high. The clear door opening shall be 37.50" (953 mm) wide x 58.00" (1473 mm) high.</p> <p><u>Compartment Loading</u> The compartment shall be capable of holding 1,000 lb (454 kg). The area over the frame rails shall be capable of holding an additional 2,000 lb (908 kg).</p> <p><u>HITCH RECEIVERS</u> A total of three (3) hitch receivers shall be provided on the apparatus. The hitch receivers shall be constructed of heavy steel tubing and reinforced to the apparatus framework.</p> <p><u>Rear Receiver</u> A class IV hitch receiver shall be installed under the body at the rear of the apparatus.</p> <p>The hitch receiver shall be tested to provide a 2:1 straight line pull no-yield safety factor over a maximum load rating of 10,000 lb. As a result, the hitch receiver shall be capable of retaining a portable winch with a rating of no more than 10,000 lb. The hitch receiver shall also be capable of being used for rope operations when used with properly rated equipment.</p> <p>NFPA 2016 Section 13.3.3.2 requires that if the apparatus is equipped to tow a trailer, an additional 45 amps shall be added to the minimum continuous electrical load to provide electrical power for the federally required clearance and marker lighting and the optical warning devices mounted on the trailer. This hitch receiver shall not be utilized to tow a trailer. Therefore, the additional amps shall not be included with the minimum continuous load.</p> <p>A label shall be provided near the hitch receiver stating that this receiver shall not be used for towing.</p> <p><u>Side Receivers</u> There shall be one (1) hitch receiver installed under the body behind the rear wheels on each side of the body.</p> <p>Each hitch receiver shall be tested to provide a 2:1 straight line pull no-yield safety factor over a maximum load rating of 10,000 lb. As a result, each of these hitch receivers shall be capable of retaining a portable winch with a rating of no more than 10,000 lb. Each hitch receiver shall also be capable of being used for rope operations when used with properly rated equipment.</p> <p><u>ROOF ACCESS LADDER</u> A Zico model RL-2-6 Quic-Ladder shall be provided at the rear of the body.</p>		

	Bidder Complies	
	Yes	No
<p>The ladder handrails shall be constructed out of 1.25" (3 mm) heavy-walled aluminum tubing that is covered with a black, heat-resistant, powder coated finish. Each step shall have a flat non-skid surface that is 3.00" (76 mm) deep x 18.00" (457 mm) wide. A swing-out and down extension section at the bottom of the ladder shall be provided.</p> <p>The ladder shall be mounted on the passenger's side at rear of the body.</p> <p><u>TOOL BOX</u></p> <p>Tool box(es) construction of .50" thick, UPF plastic with a cut out carrying handle on each end shall be provided.</p> <p>The tool box(es) shall be held in place to prevent movement while the vehicle is in motion. There shall be a plastic edge provided at the front of the storage location providing a sliding surface for box removal.</p> <p>The exterior box dimensions shall be to fit in the floor mounted tray in P3..</p> <p>There shall be four (4) provided. The tool box(es) shall be located P3.</p> <p><u>COMPARTMENT DIVIDER</u></p> <p>A .12" thick aluminum vertical compartment divider shall be provided in P2 centered, for the circuit breaker box, generator meter panel & light mask controller, on left side of divider. Compartment D3/P3 centered over frame rails front to rear. The divider shall be secured in place with #10 self-tapping screws.</p> <p>A total of two (2) divider(s) shall be provided.</p> <p><u>STOKES/STRETCHER BASKET RACK</u></p> <p>A rack constructed of one (1) storage trough for Stokes/Stretcher Basket(s) shall be installed in a horizontal orientation in compartment R1 compartment near ceiling (Horizontal).</p> <p>The clear rack trough dimensions shall be 26" wide x 84" long X 10" high.</p> <p>The rack shall be fabricated of .125" aluminum with the exterior finished to match the compartment interior. The interior of the trough(s) shall not be finished.</p> <p>There shall be a single retaining strap with hook and loop fastener provided to hold the stokes basket(s) in place.</p> <p><u>REAR BUMPER</u></p> <p>A rear bumper shall be provided that is an integral part of the rear body substructure.</p> <p>The bumper shall be approximately 13.00" deep x 90.00" wide.</p>		

	Bidder Complies	
	Yes	No
<p>The bumper shall have an aluminum treadplate deck mounted to the frame providing a stepping surface.</p> <p>A kick plate shall be provided above the bumper extending up on the rear bulkheads approximately 3.00"</p> <p><u>REAR WALL, BODY MATERIAL</u></p> <p>The rear wall shall be smooth and the same material as the body.</p> <p><u>TOW EYES</u></p> <p>Two (2) rear painted tow eyes shall be located at the rear of the apparatus and shall be mounted directly to the chassis frame rails. The inner and outer edges of the tow eyes shall have a radius.</p> <p><u>DOOR GUARD</u></p> <p>There shall be eight (8) compartment doors that shall include a guard/drip pan designed to protect the roll-up door from damage when in the retracted position and contain any water spray. The guard shall be fabricated from stainless steel and installed all body compartments.</p> <p><u>PULL STRAP, DOOR</u></p> <p>There shall be nine (9) compartment doors provided with pull straps. The compartment door(s) to be provided with a pull strap shall be D2, D3, D1, D4, P1, P2, P3, P4 and R1.</p> <p><u>COMPARTMENT LIGHTING</u></p> <p>There shall be nine (9) compartments with LED compartment light strips. The strips shall be centered vertically along each side of the door framing.</p> <p>Any remaining compartments shall include 6.00" diameter light in each enclosed compartment. Each light shall have a number 1076 one filament, two wire bulb.</p> <p>Opening the compartment door shall automatically turn the compartment lighting on.</p> <p><u>HATCH COMPARTMENT LIGHTING</u></p> <p>There shall be an LED strip light mounted on the hinged side of the interior in each hatch compartment.</p> <p>Each light shall be wired to an automatic door switch and to the "open door" indicator inside the cab.</p> <p><u>STANDARD DEPTH ADJUSTABLE SHELF</u></p> <p>An adjustable shelf shall be provided. The shelf shall be constructed of 0.188" thick aluminum with 2.00" high sides.</p> <p>The shelf shall be as deep as possible for a standard depth compartment, and as wide as possible for the specified mounting location.</p>		

	Bidder Complies	
	Yes	No
<p>The shelf shall be secured within the compartment by means of adjustable threaded fasteners. These fasteners shall slide in an extruded aluminum track to provide height adjustment.</p> <p>The shelf shall have a load capacity of 500 lb.</p> <p>A total of one (1) shelf shall be provided P1.</p> <p><u>HALF DEPTH ADJUSTABLE SHELF</u></p> <p>An adjustable shelf shall be provided for use in a transverse side body compartment. The shelf shall be constructed of 0.188" thick aluminum with 2.00" high sides.</p> <p>The shelf shall be half depth of the transverse compartment and as wide as possible for the specified mounting location.</p> <p>The shelf shall be secured within the compartment by means of adjustable threaded fasteners. These fasteners shall slide in an extruded aluminum track to provide height adjustment.</p> <p>The shelf shall have a load capacity of 500 lb.</p> <p>A total of two (2) shelves shall be provided D3, P3.</p> <p><u>HALF DEPTH SLIDE-OUT UTILITY TRAY</u></p> <p>There shall be two (2) slide-out trays provided for use in the transverse side body compartment(s).</p> <p>Each tray shall be a utility style tray that is rated for up to 500 lb in the extended position. The bottom of each tray shall be constructed of 0.19" thick aluminum while special aluminum extrusions shall be utilized for the tray sides, ends and tracks. The corners shall be welded.</p> <p>Each tray shall have 3.00" high sides, shall be half the depth of the transverse compartment and shall be as wide as possible for the designated mounting location.</p> <p>Each tray shall be supported with a minimum of six (6) ball bearing rollers. Each tray shall slide out two thirds (2/3) of its length in one (1) direction only.</p> <p>Automatic locks shall be provided for both the in and out positions. The trip mechanism for the locks shall be located at the front of each tray for ease of use with a gloved hand.</p> <p>The vertical location of each tray within the compartment shall be adjustable.</p> <p>The tray(s) shall be located D3, P3.</p> <p><u>110.00" DEEP SLIDE-OUT UTILITY TRAY</u></p> <p>There shall be one (1) slide-out tray provided for use in the rear compartment.</p>		

	Bidder Complies	
	Yes	No
<p>Each tray shall be a utility style tray that is rated for up to 500 lb in the extended position. The bottom of each tray shall be constructed of 0.19" thick aluminum while special aluminum extrusions shall be utilized for the tray sides, ends and tracks. The corners shall be welded.</p> <p>Each tray shall have 3.00" high sides, shall be 110.00" deep and shall be as wide as possible for the designated mounting location.</p> <p>Each tray shall be supported with a minimum of six (6) ball bearing rollers. Each tray shall slide out two thirds (2/3) of its length in one (1) direction only.</p> <p>Automatic locks shall be provided for both the in and out positions. The trip mechanism for the locks shall be located at the front of each tray for ease of use with a gloved hand.</p> <p>The vertical location of each tray within the compartment shall be adjustable.</p> <p>The tray(s) shall be located R1.</p> <p><u>TRANSVERSE TWO (2) WAY SLIDE-OUT UTILITY TRAY</u></p> <p>There shall be one (1) slide-out tray provided for use in the transverse side body compartment(s).</p> <p>Each tray shall be a utility style tray that is rated for up to 500 lb in the extended position. The bottom of each tray shall be constructed of 0.19" thick aluminum while special aluminum extrusions shall be utilized for the tray sides, ends and tracks. The corners shall be welded.</p> <p>Each tray shall have 3.00" high sides, shall span the full depth of the transverse compartment and shall be as wide as possible for the designated mounting location.</p> <p>Each tray shall be supported with a minimum of six (6) ball bearing rollers. Each tray shall slide out two thirds (2/3) of its length to either side of the apparatus.</p> <p>Automatic locks shall be provided for both the in and out positions. The trip mechanism for the locks shall be located at the front of each tray for ease of use with a gloved hand.</p> <p>The vertical location of each tray within the compartment shall be adjustable.</p> <p>The tray(s) shall be located D4 & P4.</p> <p><u>STANDARD DEPTH SLIDE-OUT/TILT-DOWN TRAY</u></p> <p>There shall be two (2) slide-out trays provided.</p> <p>The bottom of each tray shall constructed of 0.188" thick aluminum while special aluminum extrusions shall be utilized for the tray sides, ends, and tracks. The corners shall be welded to form a rigid unit.</p>		

	Bidder Complies	
	Yes	No
<p>The tray shall have 3.00" high sides, shall be full depth for a standard depth compartment and shall be as wide as possible for the specified mounting location.</p> <p>A spring loaded lock shall be provided on each side at the front of the tray. Releasing the locks shall allow the tray to slide out approximately two-thirds (2/3) of its length from the stowed position and tip 30 degrees down from horizontal. The tray shall be equipped with ball bearing rollers for smooth operation.</p> <p>Rubber padded stops shall be provided for the tray in the extended position.</p> <p>The capacity rating of the tray shall be a minimum of 200 lb in the extended position.</p> <p>The vertical position of the tray within the compartment shall be adjustable.</p> <p>The tray(s) shall be located P2 & D2.</p> <p><u>HALF DEPTH SLIDE-OUT/TILT-DOWN TRAY</u></p> <p>There shall be two (2) slide-out trays provided for use in the transverse side body compartment(s).</p> <p>Each tray shall be a slide-out/tilt down tray that is rated for up to 200 lb in the extended position. The bottom of each tray shall constructed of 0.188" thick aluminum while special aluminum extrusions shall be utilized for the tray sides, ends, and tracks. The corners shall be welded to form a rigid unit.</p> <p>The tray shall have 3.00" high sides, shall be half depth of the transverse compartment and shall be as wide as possible for the specified mounting location.</p> <p>A spring loaded lock shall be provided on each side at the front of the tray. Releasing the locks shall allow the tray to slide out approximately two-thirds (2/3) of its length from the stowed position and tip 30 degrees down from horizontal. Each tray shall be equipped with ball bearing rollers for smooth operation.</p> <p>Rubber padded stops shall be provided for the tray in the extended position.</p> <p>The vertical position of each tray within the compartment shall be adjustable.</p> <p>The tray(s) shall be located D4 & P4.</p> <p><u>STANDARD DEPTH SLIDE-OUT FLOOR MOUNTED TRAY</u></p> <p>There shall be six (6) floor mounted slide-out tray(s) with 2.00" sides provided R1, D3, D4, P1, P3, P4. Each tray shall be rated for up to 500 lb in the extended position. The tray(s) shall be constructed of 0.19" aluminum. The finish shall be painted to match compartment interior.</p>		

	Bidder Complies	
	Yes	No
<p>Each tray shall be mounted on two (2) under mount, roller bearing type slides. Each slide shall be rated at 250 lb with a factor of safety of two (2).</p> <p>To ensure years of dependable service the slides shall be coated with a finish that is tested to withstand a minimum of 1,000 hours of salt spray per ASTM B117.</p> <p>To ensure years of easy operation, the slide shall require no more than a 50 lb force for push-in or pull-out movement when fully loaded after having been subjected to a 40 hour vibration (shaker) test under full load. The vibration drive file shall have been generated from accelerometer data collected from a heavy truck chassis driven over rough gravel roads in an unloaded condition. Proof of compliance shall be provided upon request.</p> <p>Automatic locks shall be provided for both the "in" and "out" positions. The trip mechanism for the locks shall be located at the front of the tray for ease of use with a gloved hand.</p> <p><u>STANDARD DEPTH SLIDE-OUT TOOLBOARD</u></p> <p>A slide-out aluminum toolboard shall be provided. The toolboard shall be constructed of 0.19" thick aluminum that is painted spatter gray to match compartment interior. The toolboard shall be provided with 0.20" diameter holes in a pegboard pattern with 1.00" centers between holes. A 1.00" x 1.00" aluminum tube frame shall be welded to the edge of the pegboard.</p> <p>The toolboard shall be as deep as possible for a standard depth compartment, and as tall as possible for the specified mounting location.</p> <p>The toolboard shall be mounted on an under mount, roller bearing type slide that is rated for 250 lb with a factor of safety of two (2).</p> <p>To ensure years of dependable service the slide shall be coated with a finish that is tested to withstand a minimum of 1,000 hours of salt spray per ASTM B117.</p> <p>To ensure years of easy operation, the slide shall require no more than a 50 lb force for push-in or pull-out movement when fully loaded after having been subjected to a 40 hour vibration (shaker) test under full load. The vibration drive file shall have been generated from accelerometer data collected from a heavy truck chassis driven over rough gravel roads in an unloaded condition. Proof of compliance shall be provided upon request.</p> <p>The slide shall be mounted to a shelf type track to allow side adjustment of the tool board.</p> <p>A positive lock shall be provided to allow the toolboard to be locked in both the stowed and extended positions.</p> <p>A total of Two (2) standard depth slide-out toolboard(s) shall be provided. The toolboard(s) shall be located D1.</p>		

	Bidder Complies	
	Yes	No
<p><u>RUB RAIL</u></p> <p>Bottom edge of the side compartments shall be trimmed with a bright aluminum extruded rub rail.</p> <p>Trim shall be 2.12" high with 1.38" flanges turned outward for rigidity.</p> <p>The rub rails shall not be an integral part of the body construction, which allows replacement in the event of damage.</p> <p><u>BODY FENDER CROWNS</u></p> <p>Stainless steel fender crowns shall be provided around the rear wheel openings.</p> <p>A rubber welting shall be provided between the body and the crown to seal the seam and restrict moisture from entering.</p> <p>A dielectric barrier shall be provided between the fender crown fasteners (screws) and the fender sheet metal to prevent corrosion.</p> <p>A total of One (1) handrail shall be provided mounted on the officer side rear hatch compartment to assist with the rear access ladder.. The handrail(s) shall be L-shaped to provide a grasping surface from multiple angles. One section of the handrail shall be approximately 40.00" long and the other section shall be approximately 20.00" long.</p> <p><u>AIR BOTTLE STORAGE (SINGLE BOTTLE)</u></p> <p>A total of three (3) air bottle compartments shall be provided and located One in driver side fender panel, two in passenger side fender panel, one in front and one behind rear axle.. The air bottle compartment shall be in the form of a round tube (7.63" diameter minimum) and of adequate depth to accommodate different size air bottles. Flooring shall be rubber lined and have a drain hole. A stainless steel door with a chrome-plated latch shall be provided to contain the air bottle. A dielectric barrier shall be provided between the door hinge, hinge fasteners and the body sheet metal.</p> <p><u>AIR HORN SYSTEM</u></p> <p>There shall be two (2) air horns recessed in the front bumper. The horn system shall be piped to the air brake system wet tank utilizing 0.38" tubing. A pressure protection valve shall be installed in-line to prevent loss of air in the air brake system.</p> <p><u>Air Horn Location</u></p> <p>The air horns shall be located on each side of the bumper, towards the outside.</p>		

	Bidder Complies	
	Yes	No
<p><u>AIR HORN CONTROL</u></p> <p>The air horns shall be actuated by a foot switch on the officer's side and by the horn button in the steering wheel. The driver shall have the option to control the air horns or the chassis horns from the horn button by means of a selector switch located on the instrument panel.</p> <p><u>ELECTRONIC SIREN</u></p> <p>There shall be a 100 or 200 watt electronic siren with a plug-in noise canceling microphone shall be provided.</p> <p>This siren to be active when the battery switch is on and that emergency master switch is on.</p> <p>Electronic siren head shall be located in the center console.</p> <p>The electronic siren shall be controlled on the siren head only. No horn button or foot switches shall be required.</p> <p><u>SPEAKER</u></p> <p>There shall be two (2) speakers provided. Each speaker shall be a black nylon composite, 100-watt, with through bumper mounting brackets and polished stainless steel grille. Each speaker shall be connected to the siren amplifier.</p> <p>There shall be one (1) speaker recessed in the passenger's side and one (1) speaker recessed in the driver's side of the front bumper.</p> <p><u>AUXILIARY MECHANICAL SIREN</u></p> <p>A mechanical siren shall be furnished. A siren brake button shall be installed on the switch panel.</p> <p>The control solenoid shall be powered up after the emergency master switch is activated.</p> <p>The mechanical siren shall be mounted on the bumper deck plate. It shall be mounted on the left side. A reinforcement plate shall be furnished to support the siren.</p> <p><u>MECHANICAL SIREN CONTROL</u></p> <p>The mechanical siren shall be actuated by a push button located on the officer's side instrument panel and by a foot switch on the driver's side.</p> <p><u>FRONT ZONE UPPER WARNING LIGHTS</u></p> <p>There shall be one (1) 72.00" LED lightbar mounted on the cab roof.</p> <p>The lightbar shall include the following:</p> <ul style="list-style-type: none"> • One (1) red flashing LED module in the driver's side end position. • One (1) red flashing LED module in the driver's side front corner position. 		

	Bidder Complies	
	Yes	No
<ul style="list-style-type: none"> • One (1) white flashing LED module in the driver's side first front position. • One (1) red flashing LED module in the driver's side second front position. • One (1) red flashing LED module in the driver's side third front position. • One (1) red flashing LED module in the driver's side fourth front position. • Open in the driver's side fifth front position. • Open in the driver's side sixth front position. • Open in the passenger's side sixth front position. • Open in the passenger's side fifth front position. • One (1) red flashing LED module in the passenger's side fourth front position. • One (1) red flashing LED module in the passenger's side third front position. • One (1) red flashing LED module in the passenger's side second front position. • One (1) white flashing LED module in the passenger's side first front position. • One (1) red flashing LED module in the passenger's side front corner position. • One (1) red flashing LED module in the passenger's side end position. <p>There shall be clear lenses included on the lightbar.</p> <p>There shall be a switch in the cab on the switch panel to control this lightbar.</p> <p>The white LEDs shall be disabled when the parking brake is applied.</p> <p>The six (6) red flashing LED modules in the front positions may be load managed when the parking brake is applied.</p> <p><u>LIGHTS, FRONT ZONE LOWER</u></p> <p>Two (2) LED flashing warning lights shall be installed on the cab face above the headlights, in a common bezel with the directional lights.</p> <p>The driver's side front warning light to be red.</p> <p>The passenger's side front warning light to be red.</p> <p>Both lights shall include a clear lens.</p> <p>There shall be a switch located in the cab on the switch panel to control the lights.</p> <p><u>HEADLIGHT FLASHER</u></p> <p>The high beam headlights shall flash alternately between the left and right side.</p> <p>There shall be a switch installed in the cab on the switch panel to control the high beam flash. This switch shall be live when the battery switch and the emergency master switches are on.</p>		

	Bidder Complies	
	Yes	No
<p>The flashing shall automatically cancel when the hi-beam headlight switch is activated or when the parking brake is set.</p> <p><u>SIDE ZONE LOWER LIGHTING</u></p> <p>There shall be six (6) flashing LED warning lights with chrome trim installed per the following:</p> <ul style="list-style-type: none"> • Two (2) lights, one (1) each side on the bumper extension. The side front lights to be red. • Two (2) lights, one (1) each side above the front wheels. The side middle lights to be red. • Two (2) lights, one (1) each side above rear wheels. The side rear lights to be red. • The lights shall include clear lenses. <p>There shall be a switch in the cab on the switch panel to control the lights.</p> <p><u>REAR ZONE LOWER LIGHTING</u></p> <p>There shall be two (2) LED flashing warning lights with chrome flanges located at the rear of the apparatus.</p> <ul style="list-style-type: none"> • The driver's side rear light to be red • The passenger's side rear light to be red <p>Both lights shall include a lens that is clear.</p> <p>There shall be a switch located in the cab on the switch panel to control the lights.</p> <p><u>WARNING LIGHTS (REAR AND SIDE UPPER ZONES)</u></p> <p>Four (4) LED flashing warning lights shall be provided at the rear of the apparatus.</p> <p>The side rear upper light(s) on the driver's side to be red.</p> <p>The rear upper light(s) on the driver's side to be red.</p> <p>The rear upper light(s) on the passenger's side to be red.</p> <p>The side rear upper light(s) on the passenger's side to be red.</p> <p>These lights shall include a lens that is clear.</p> <p>There shall be a switch located in the cab on the switch panel to control the lights.</p> <p><u>TRAFFIC DIRECTING LIGHT</u></p> <p>There shall be one (1) 36.01" long x 2.84" high x 2.24" deep, amber LED traffic directing light installed at the rear of the apparatus.</p> <p>The control head shall be included with this installation.</p>		

	Bidder Complies	
	Yes	No
<p>The auxiliary warning mode shall be activated with the control head only.</p> <p>This traffic directing light shall be recessed within a treadplate step at the rear of the apparatus.</p> <p>The traffic directing light control head shall be located in the driver side overhead switch panel in the right panel position.</p> <p><u>ELECTRICAL SYSTEM GENERAL DESIGN FOR ALTERNATING CURRENT</u></p> <p>The following guidelines shall apply to the 120/240 VAC system installation:</p> <p><u>General</u></p> <p>Any fixed line voltage power source producing alternating current (ac) line voltage shall produce electric power at 60 cycles plus or minus 3 cycles.</p> <p>Except where superseded by the requirements of NFPA 1901, all components, equipment and installation procedures shall conform to NFPA 70, National Electrical Code (herein referred to as the NEC).</p> <p>Line voltage electrical system equipment and materials included on the apparatus shall be listed and installed in accordance with the manufacturer's instructions. All products shall be used only in the manner for which they have been listed.</p> <p><u>Grounding</u></p> <p>Grounding shall be in accordance with Section 250-6 "Portable and Vehicle Mounted Generators" of the NEC. Ungrounded systems shall not be used. Only stranded or braided copper conductors shall be used for grounding and bonding.</p> <p>An equipment grounding means shall be provided in accordance with Section 250-91 (Grounding Conductor Material) of the NEC.</p> <p>The grounded current carrying conductor (neutral) shall be insulated from the equipment grounding conductors and from the equipment enclosures and other grounded parts. The neutral conductor shall be colored white or gray in accordance with Section 200-6 (Means of Identifying Grounding Conductors) of the NEC.</p> <p>In addition to the bonding required for the low voltage return current, each body and driving or crew compartment enclosure shall be bonded to the vehicle frame by a copper conductor. This conductor shall have a minimum amperage rating of 115 percent of the nameplate current rating of the power source specification label as defined in Section 310-15 (amp capacities) of the NEC. A single conductor properly sized to meet the low voltage and line voltage requirements shall be permitted to be used.</p>		

	Bidder Complies	
	Yes	No
<p>All power source system mechanical and electrical components shall be sized to support the continuous duty nameplate rating of the power source.</p> <p><u>Operation</u> Instructions that provide the operator with the essential power source operating instructions, including the power-up and power-down sequence, shall be permanently attached to the apparatus at any point where such operations can take place.</p> <p>Provisions shall be made for quickly and easily placing the power source into operation. The control shall be marked to indicate when it is correctly positioned for power source operation. Any control device used in the drive train shall be equipped with a means to prevent the unintentional movement of the control device from its set position.</p> <p>A power source specification label shall be permanently attached to the apparatus near the operator's control station. The label shall provide the operator with the information detailed in Figure 19-4.10.</p> <p>Direct drive (PTO) and portable generator installations shall comply with Article 445 (Generators) of the NEC.</p> <p><u>Overcurrent protection</u> The conductors used in the power supply assembly between the output terminals of the power source and the main over current protection device shall not exceed 144.00" (3658 mm) in length.</p> <p>For fixed power supplies, all conductors in the power supply assembly shall be type THHW, THW, or use stranded conductors enclosed in nonmetallic liquid tight flexible conduit rated for a minimum of 194 degree Fahrenheit (90 degrees Celsius).</p> <p>For portable power supplies, conductors located between the power source and the line side of the main overcurrent protection device shall be type SO or type SEO with suffix WA flexible cord rated for 600-volts at 194 degrees Fahrenheit (90 degrees Celsius).</p> <p><u>Wiring Methods</u> Fixed wiring systems shall be limited to the following:</p> <ul style="list-style-type: none"> • Metallic or nonmetallic liquid tight flexible conduit rated at not less than 194 degrees Fahrenheit (90 degrees Celsius) • or • Type SO or Type SEO cord with a WA suffix, rated at 600 volts at not less than 194 degrees Fahrenheit (90 degrees Celsius) 		

	Bidder Complies	
	Yes	No
<p>Electrical cord or conduit shall not be attached to chassis suspension components, water or fuel lines, air or air brake lines, fire pump piping, hydraulic lines, exhaust system components, or low voltage wiring. In addition the wiring shall be run as follows.</p> <ul style="list-style-type: none"> • Separated by a minimum of 12.00" (305 mm), or properly shielded, from exhaust piping • Separated from fuel lines by a minimum of 6.00" (152 mm) distance <p>Electrical cord or conduit shall be supported within 6.00" (152 mm) of any junction box and at a minimum of every 24.00" (610 mm) of continuous run. Supports shall be made of nonmetallic materials or corrosion protected metal. All supports shall be of a design that does not cut or abrade the conduit or cable and shall be mechanically fastened to the vehicle.</p> <p><u>Wiring Identification</u> All line voltage conductors located in the main panel board shall be individually and permanently identified. The identification shall reference the wiring schematic or indicate the final termination point. When prewiring for future power sources or devices, the unterminated ends shall be labeled showing function and wire size.</p> <p><u>Wet Locations</u> All wet location receptacle outlets and inlet devices, including those on hardwired remote power distribution boxes, shall be of the grounding type provided with a wet location cover and installed in accordance with Section 210-7 "Receptacles and Cord Connections" of the NEC.</p> <p>All receptacles located in a wet location shall be not less than 24.00" (610 mm) from the ground. Receptacles on off-road vehicles shall be a minimum of 30.00" (762 mm) from the ground.</p> <p>The face of any wet location receptacle shall be installed in a plane from vertical to not more than 45 degrees off vertical. No receptacle shall be installed in a face up position.</p> <p><u>Dry Locations</u> All receptacles located in a dry location shall be of the grounding type. Receptacles shall be not less than 30.00" (762 mm) above the interior floor height.</p> <p>All receptacles shall be marked with the type of line voltage (120-volts or 240-volts) and the current rating in amps. If the receptacles are direct current, or other than single phase, they shall be so marked.</p> <p><u>Listing</u> All receptacles and electrical inlet devices shall be listed to UL 498, Standard for Safety Attachment Plugs and Receptacles, or other appropriate performance standards. Receptacles used for direct current voltages shall be rated for the appropriate service.</p>		

	Bidder Complies	
	Yes	No
<p><u>Electrical System Testing</u></p> <p>The wiring and associated equipment shall be tested by the apparatus manufacturer or the installer of the line voltage system.</p> <p>The wiring and permanently connected devices and equipment shall be subjected to a dielectric voltage withstand test of 900-volts for one (1) minute. The test shall be conducted between live parts and the neutral conductor, and between live parts and the vehicle frame with any switches in the circuit(s) closed. This test shall be conducted after all body work has been completed.</p> <p>Electrical polarity verification shall be made of all permanently wired equipment and receptacles to determine that connections have been properly made.</p> <p><u>Operational Test per Current NFPA 1901 Standard</u></p> <p>The apparatus manufacturer shall perform the following operation test and ensure that the power source and any devices that are attached to the line voltage electrical system are properly connected and in working order. The test shall be witnessed and the results certified by an independent third-party certification organization.</p> <p>The prime mover shall be started from a cold start condition and the line voltage electrical system loaded to 100 percent of the nameplate rating.</p> <p>The power source shall be operated at 100 percent of its nameplate voltage for a minimum of two (2) hours unless the system meets category certification as defined in the current NFPA 1901 standard.</p> <p>Where the line voltage power is derived from the vehicle's low voltage system, the minimum continuous electrical load as defined in the current NFPA 1901 standard shall be applied to the low voltage electrical system during the operational test.</p> <p><u>25KW SINGLE PHASE GENERATOR</u></p> <p>The apparatus shall be equipped with a complete electrical power system. The wiring and generator installation shall conform to the present National Electrical Code Standards of the National Fire Protection Association. The installation shall be designed for continuous operation without overheating and undue stress on components.</p> <p>The generator shall be a single phase, four (4)-wire, 25kW driven by a transmission "power takeoff" attached to the side of the transmission.</p> <p>Generator performance shall meet the American National Standards Institute (ANSI) C84.1-1982 voltage requirement as utilized from the receptacle.</p> <p>Generator shall have a built in automatic voltage control.</p>		

	Bidder Complies	
	Yes	No
<p>Generator shall have a NEMA MG21 rating.</p> <ul style="list-style-type: none"> - Continuous Duty Rating: 25,000 watts - Phase: Single - Nominal Cycles: 60 hertz - Nominal Amp Rating: 104 at 240-volts - Engine Speed at Engagement: Idle - Engine Speed Engaged: 1100/1400 rpm range - Generator RPM: 1800 rpm - Weight: 398 lbs. <p>The output of the generator shall be controlled by an electronic governor. The governor shall be programmed so the generator's output is at 60 hertz.</p> <p>The main chassis transmission PTO shall power the generator. A stainless steel splash guard shall be installed to reduce the amount of road spray on this frame-mounted generator.</p> <p>The generator shall be operable in the stationary mode with a shift control located inside the cab with an indicator light to note engagement. For safety, the automatic high idle shall be activated through interlocks only after the chassis parking brake control is in the park position, the generator PTO transmission has made a complete shift and the truck transmission is in neutral.</p> <p>An electric/hydraulic valve shall supply hydraulic fluid to the clutch engagement unit provided on the chassis PTO drive.</p> <p>To properly monitor the generator performance and load demands during operation, the generator shall be equipped with a full instrument and control package. This panel shall be mounted adjacent to the load center. The following instruments shall be installed in the panel:</p> <ul style="list-style-type: none"> - One (1) Voltmeter - Two (2) Ammeters - One (1) Frequency Meter - One (1) Hour Meter - One (1) "Power On" Green Indicator Light 		

	Bidder Complies	
	Yes	No
<p>- One (1) PTO Engagement Indicator Light</p> <p>- Two (2) Fuse Holders: With two (2) amp fuses for gauge protection</p> <p>The meter and indicators shall be installed near eye level in the compartment. Instruments shall be flush mounted in an appropriate sized weatherproof electrical enclosure. All instruments used shall be accurate within +/- two (2) percent.</p> <p>The system shall be installed by highly qualified electrical technicians to assure the required level of safety and protection to the fire apparatus operators. The wiring, electrical fixtures and components shall be to the highest industry quality standards available on the domestic market. The equipment shall be the type designed for mobile installations subject to vibration, moisture and severe continuous usage.</p> <p>All electrical wiring from the load center shall be fine stranded copper S.O. type with a 600 volt jacket. The wire shall be sized to the load and circuit breaker rating. The wire size shall be ten (10)-gauge on 30 amp circuits, 12-gauge on 20 amp circuits and 14-gauge on 15 amp circuits. The S.O. cable shall be run in corner areas and extruded aluminum pathways built into the body for easy access. Any S.O. cord not run in an enclosed raceway or cable tray shall have an additional abrasion resistant covering.</p> <p>The main load center shall have circuit breakers rated to load demand.</p> <p>Individual breakers shall be provided for all receptacles to isolate a tripped breaker from affecting any other on-line equipment.</p> <p><u>GENERATOR LOCATION</u></p> <p>The generator shall be mounted under the body between the frame rails.</p> <p><u>GENERATOR START</u></p> <p>There shall be a switch provided on the cab instrument panel to engage the generator.</p> <p><u>CIRCUIT BREAKER PANEL</u></p> <p>The circuit breaker panel shall be located P2. The circuit breaker panel shall be mounted at an approximate 45 degree angle facing the compartment door.</p> <p><u>GENERATOR SPLASH GUARD</u></p> <p>A stainless steel splash guard shall be installed to reduce the amount of road spray on a frame mounted PTO generator.</p> <p><u>LIGHT TOWER</u></p> <p>There shall be one (1) light tower provided.</p> <p>There shall be six (6) 1500 watt 240 volt AC light heads included on this tower.</p>		

	Bidder Complies	
	Yes	No
<p>The painted parts of the light tower and the light heads to be white.</p> <p>The tower shall include no AC detector.</p> <p>This tower shall be connected to the Do Not Move Truck Indicator in the cab.</p> <p>The lights included on this tower shall be powered through the AC breaker box.</p> <p><u>LIGHT TOWER LOCATION</u></p> <p>The light tower shall be installed forward, on the rescue body roof.</p> <p><u>LIGHT TOWER CONTROLLER</u></p> <p>There shall be one (1) wired handheld controller included.</p> <p><u>LOCATION FOR THE LIGHT TOWER CONTROLLER</u></p> <p>The light tower controller shall be installed near the circuit breaker panel.</p> <p><u>ELECTRIC CORD REEL</u></p> <p>Furnished with the 120-volt AC electrical system shall be a cord reel. The reel shall be provided with a 12-volt electric rewind switch that is guarded to prevent accidental operation and labeled for its intended use. The switch shall be protected with a fuse and installed at a height not to exceed 72.00" above the operators standing position.</p> <p>The reel shall be capable holding 12/3, 600-volt cable or 10/3, 600-volt cable.</p> <p>The exterior finish of the reel(s) shall be powder coated silver from the reel manufacturer.</p> <p>A captive roller assembly to be provided to aid in the payout and loading of the reel. A ball stop shall be provided to prevent the cord from being wound on the reel.</p> <p>A label shall be provided in a readily visible location adjacent to the reel. The label shall indicate current rating, current type, phase, voltage and total cable length.</p> <p>A total of two (2) cord reels shall be provided one (1) in compartment P3 high and to the right and one (1) in compartment D4 high and to the right.</p> <p>The cord reel should be configured with three (3) conductors.</p> <p><u>CORD</u></p> <p>Provided for electric distribution shall be two (2) lengths, one (1) for each reel, of 200 feet of yellow 10/3 electrical cord, weather resistant 105 degree Celsius to -50 degree Celsius, 600 volt jacketed SOOW cord. A Hubbell L5-20, 20 amp, 120 volt, twist lock connector body shall be installed on the end of the cord.</p>		

	Bidder Complies	
	Yes	No
<p><u>LOOSE EQUIPMENT</u></p> <p>The following equipment shall be furnished with the completed unit:</p> <ul style="list-style-type: none"> - One (1) bag of chrome, stainless steel, or cadmium plated screws, nuts, bolts and washers, as used in the construction of the unit <p><u>NFPA REQUIRED LOOSE EQUIPMENT PROVIDED BY FIRE DEPARTMENT</u></p> <p>The following loose equipment as outlined in NFPA 1901, 2016 edition, section 10.9.3 shall be provided by the fire department.</p> <ul style="list-style-type: none"> - One (1) SCBA complying with NFPA 1981 for each assigned seating position, but not fewer than two (2), mounted in brackets fastened to the apparatus or stored in containers supplied by the SCBA manufacturer. - One (1) spare SCBA cylinder for each SCBA carried, each mounted in a bracket fastened to the apparatus or stored in a specially designed storage space(s). - One (1) first aid kit. - One (1) traffic vest for each seating position, each vest to comply with ANSI/ISEA 207, <i>Standard for High Visibility Public Safety Vests</i>, and have a five-point breakaway feature that includes two at the shoulders, two at the sides, and one at the front. - Five (5) fluorescent orange traffic cones not less than 28" (711 mm) in height, each equipped with a 6". (152 mm) retro-reflective white band no more than 4" (152 mm) from the top of the cone, and an additional 4" (102 mm) retro-reflective white band 2" (51 mm) below the 6" (152 mm) band. - Five (5) illuminated warning devices such as highway flares, unless the five fluorescent orange traffic cones have illuminating capabilities. - One automatic external defibrillator (AED). <p><u>DRY CHEMICAL EXTINGUISHER PROVIDED BY FIRE DEPARTMENT</u></p> <p>NFPA 1901, 2016 edition, section 10.9.3 requires one (1) approved dry chemical portable fire extinguisher with a minimum 80-B:C rating mounted in a bracket fastened to the apparatus.</p> <p>The extinguisher is not on the apparatus as manufactured. The fire department shall provide and mount the extinguisher.</p> <p><u>WATER EXTINGUISHER PROVIDED BY FIRE DEPARTMENT</u></p> <p>NFPA 1901, 2016 edition, section 10.9.3 requires one (1) 2.5 gallon or larger water extinguisher mounted in a bracket fastened to the apparatus.</p>		

	Bidder Complies	
	Yes	No
<p>The extinguisher is not on the apparatus as manufactured. The fire department shall provide and mount the extinguisher.</p> <p><u>PAINT</u></p> <p>The cab shall be two-tone, with the upper section painted white and lower section of the cab and body painted red.</p> <p><u>PAINT CHASSIS FRAME ASSEMBLY</u></p> <p>The chassis frame assembly shall be painted black before the installation of the cab and body, and before installation of the engine and transmission assembly, air brake lines, electrical wire harnesses, etc.</p> <p>Components treated with epoxy E-coat protection prior to paint:</p> <ul style="list-style-type: none"> • Two (2) C-channel frame rails <p>Components that are included with the chassis frame assembly that shall be painted not e-coated are:</p> <ul style="list-style-type: none"> • Cross members • Axles • Suspensions • Steering gear • Battery boxes • Bumper extension weldment • Frame extensions • Body mounting angles • Rear Body support substructure (front and rear) • Pump house substructure • Air tanks • Fuel tank • Castings • Individual piece parts used in chassis and body assembly <p>The E-coat process shall meet the technical properties shown.</p> <p><u>COMPARTMENT INTERIOR PAINT</u></p> <p>The interior of compartmentation shall be painted with a gray spatter type paint.</p>		

Bidder Complies	
Yes	No

REFLECTIVE STRIPES

Three (3) reflective stripes shall be provided across the front of the vehicle and along the sides of the body. The reflective band shall consist of a 1.00" white stripe at the top with a 1.00" gap then a 6.00" white stripe with a 1.00" gap and a 1.00" white stripe on the bottom.

REFLECTIVE STRIPE ON CAB FACE

The reflective band provided on the cab face shall be located below the stainless steel trim band and above the front bumper.

REAR CHEVRON STRIPING

There shall be alternating chevron striping located on the rear-facing vertical surface of the apparatus. Covered surfaces shall include the exterior rear wall. Rear compartment doors, entry doors, or walkway areas shall not be covered.

The colors shall be red and fluorescent yellow green diamond grade.

Each stripe shall be 6.00" in width.

This shall meet the requirements of the current edition of NFPA 1901, which states that 50% of the rear surface shall be covered with chevron striping.

OUTLINE, REFLECTIVE STRIPE

A Black outline shall be applied on the top and the bottom of the reflective band. There shall be three (3) set of outline stripes required.

CAB DOOR REFLECTIVE STRIPE

A 6.00" x 16.00" fluorescent yellow green diamond grade reflective stripe shall be provided across the interior of each cab door. The stripe shall be located approximately 1.00" up from the bottom, on the door panel.

This stripe shall meet the NFPA 1901 requirement.

CUSTOM CHASSIS RUST PROOF / UNDERCOAT

The rust proof/undercoat option shall provide additional paint to the chassis frame rails and a protective coating that shall help fight corrosion.

Rust proof / Undercoat Process

A coating shall be applied to the custom chassis once the cab, pump and body mounting angles have been installed. The coating texture shall be waxy and pliable after drying so it shall not chip, crack, or peel off during normal vehicle operations.

The rust proofing material shall be the color black, and is a coating of a corrosion inhibitor for long-term protection against corrosion.

	Bidder Complies	
	Yes	No
<p>The material shall be applied to the following areas:</p> <ul style="list-style-type: none"> • Outside of the chassis frame rails (top & side) • Top of the frame rails • Top of crossmembers • Inside of the frame rails - in and around harnesses keeping coating off harnesses as best as possible • Between the frame and liner - coating shall be applied after frame and liner are assembled using a wand to apply material between as best as possible • Top of the body mounting angles (including rear platform) • Top of air tanks • Top of fuel tank <p><u>FIRE APPARATUS PARTS CD MANUAL</u></p> <p>There shall be two (2) custom parts manuals for the complete fire apparatus provided in CD format with the completed unit.</p> <p>The manuals shall contain the following:</p> <ul style="list-style-type: none"> • Job number • Part numbers with full descriptions • Table of contents • Parts section sorted in functional groups reflecting a major system, component, or assembly • Parts section sorted in alphabetical order • Instructions on how to locate parts <p>The manuals shall be specifically written for the chassis and body model being purchased. It shall not be a generic manual for a multitude of different chassis and bodies.</p> <p><u>SERVICE PARTS INTERNET SITE</u></p> <p>The service parts information included in these manuals are also available on the factory website. The website offers additional functions and features not contained in this manual, such as digital photographs and line drawings of select items. The website also features electronic search tools to assist in locating parts quickly.</p> <p><u>CHASSIS SERVICE CD MANUALS</u></p> <p>There shall be two (2) CD format chassis service manuals containing parts and service information on major components provided with the completed unit.</p> <p>The manual shall contain the following sections:</p>		

	Bidder Complies	
	Yes	No
<ul style="list-style-type: none"> • Job number • Table of contents • Troubleshooting • Front Axle/Suspension • Brakes • Engine/Tires • Wheels • Cab • Electrical, DC • Air Systems • Plumbing • Appendix <p>The manual shall be specifically written for the chassis model being purchased. It shall not be a generic manual for a multitude of different chassis and bodies.</p> <p><u>CHASSIS OPERATION CD MANUALS</u></p> <p>There shall be two (2) CD format chassis operation manuals provided.</p> <p><u>ONE (1) YEAR MATERIAL AND WORKMANSHIP</u></p> <p>Each new piece of apparatus shall be provided with a minimum one (1) year basic apparatus material and workmanship limited warranty. The warranty shall cover such portions of the apparatus built by the manufacturer as being free from defects in material and workmanship that would arise under normal use and service.</p> <p>A copy of the warranty certificate shall be submitted with the bid package (no exception).</p> <p><u>ENGINE WARRANTY</u></p> <p>A five (5) year limited engine warranty shall be provided. A copy of the warranty certificate shall be submitted with the bid package.</p> <p><u>STEERING GEAR WARRANTY</u></p> <p>A one (1) year limited steering gear warranty shall be provided. A copy of the warranty certificate shall be submitted with the bid package.</p> <p><u>FIFTY (50) YEAR STRUCTURAL INTEGRITY</u></p> <p>The chassis frame shall be provided with a fifty (50) year material and workmanship limited warranty. The warranty shall cover the chassis frame as being free from defects in material and workmanship that would arise under normal use and service.</p> <p>A copy of the warranty certificate shall be submitted with the bid package (no exception).</p>		

	Bidder Complies	
	Yes	No
<p><u>FRONT AXLE WARRANTY</u> A five (5)-year/100,000 mile parts and labor warranty shall be provided.</p> <p><u>REAR AXLE WARRANTY</u> A five (5)-year/100,000 mile parts and labor warranty shall be provided.</p> <p><u>BRAKE SYSTEM THREE (3) YEAR MATERIAL AND WORKMANSHIP WARRANTY</u> A three (3) year brake system limited warranty shall be provided.</p> <p><u>TEN (10) YEAR STRUCTURAL INTEGRITY</u> The new cab shall be provided with a ten (10) year material and workmanship limited warranty. The warranty shall cover such portions of the cab built by the manufacturer as being free from structural failures caused by defects in material and workmanship that would arise under normal use and service. A copy of the warranty certificate shall be submitted with the bid package (no exception).</p> <p><u>TEN (10) YEAR PRO-RATED PAINT AND CORROSION</u> Each new piece of apparatus shall be provided with a ten (10) year pro-rated paint and corrosion limited warranty on the apparatus cab. The warranty shall cover painted exterior surfaces of the body to be free from blistering, peeling, corrosion, or any other adhesion defect caused by defective manufacturing methods or paint material selection that would arise under normal use and service. A copy of the warranty certificate shall be submitted with the bid package (no exception).</p> <p><u>COMPARTMENT LIGHT WARRANTY</u> A ten (10) year material and workmanship limited warranty shall be provided for the Pierce 12 volt DC LED strip lights. The warranty shall cover the LED strip lights to be free from defects in material and workmanship that would arise under normal use. A copy of the warranty certificate shall be submitted with the bid package (no exception).</p> <p><u>TRANSMISSION WARRANTY</u> The transmission shall have a five (5) year/unlimited mileage warranty covering 100 percent parts and labor. The warranty is to be provided by transmission supplier and not the apparatus builder.</p> <p><u>TRANSMISSION COOLER WARRANTY</u> The transmission cooler shall carry a five (5) year parts and labor warranty (exclusive to the transmission cooler). In addition, a collateral damage warranty shall also be in effect for the first three (3) years of the warranty coverage and shall not exceed \$10,000 per occurrence. A copy of the warranty certificate shall be submitted with the bid package.</p>		

	Bidder Complies	
	Yes	No
<p><u>FIFTEEN (15) YEAR STRUCTURAL INTEGRITY</u></p> <p>Each new piece of apparatus shall be provided with a fifteen (15) year material and workmanship limited warranty on the apparatus body. The warranty shall cover such portions of the apparatus built by the manufacturer as being free from defects in material and workmanship that would arise under normal use and service.</p> <p>A copy of the warranty certificate shall be submitted with the bid package (no exception).</p> <p><u>FIVE (5) YEAR GENERATOR WARRANTY</u></p> <p>There shall be a 5 year limited warranty provided for hydraulic generators.</p> <p><u>TEN (10) YEAR PRO-RATED PAINT AND CORROSION</u></p> <p>Each new piece of apparatus shall be provided with a ten (10) year pro-rated paint and corrosion limited warranty on the apparatus body. The warranty shall cover painted exterior surfaces of the body to be free from blistering, peeling, corrosion, or any other adhesion defect caused by defective manufacturing methods or paint material selection that would arise under normal use and service.</p> <p>A copy of the warranty certificate shall be submitted with the bid package (no exception).</p> <p><u>VEHICLE STABILITY CERTIFICATION</u></p> <p>The fire apparatus manufacturer shall provide a certification stating the apparatus complies with NFPA 1901, current edition, section 4.13, Vehicle Stability. The certification shall be provided at the time of bid.</p> <p><u>ENGINE INSTALLATION CERTIFICATION</u></p> <p>The fire apparatus manufacturer shall provide a certification, along with a letter from the engine manufacturer stating they approve of the engine installation in the bidder's chassis. The certification shall be provided at the time of bid.</p> <p><u>POWER STEERING CERTIFICATION</u></p> <p>The fire apparatus manufacturer shall provide a certification stating the power steering system as installed meets the requirements of the component supplier. The certification shall be provided at the time of bid.</p> <p><u>CAB INTEGRITY CERTIFICATION</u></p> <p>The fire apparatus manufacturer shall provide a cab crash test certification with this proposal. Testing shall meet or exceed the requirements below:</p> <ul style="list-style-type: none"> - European Occupant Protection Standard ECE Regulation No.29. - SAE J2422 Cab Roof Strength Evaluation - Quasi-Static Loading Heavy Trucks. 		

	Bidder Complies	
	Yes	No
<p>- SAE J2420 COE Frontal Strength Evaluation - Dynamic Loading Heavy Trucks.</p> <p>There shall be no exception to any portion of the cab integrity certification. Nonconformance shall lead to immediate rejection of bid.</p> <p><u>CAB DOOR DURABILITY CERTIFICATION</u></p> <p>Robust cab doors help protect occupants. Cab doors shall survive a 200,000 cycle door slam test where the slamming force exceeds 20 G's of deceleration. The bidder shall certify that the sample doors similar to those provided on the apparatus have been tested and have met these criteria without structural damage, latch malfunction, or significant component wear.</p> <p><u>WINDSHIELD WIPER DURABILITY CERTIFICATION</u></p> <p>Visibility during inclement weather is essential to safe apparatus performance. Windshield wipers shall survive a 3 million cycle durability test in accordance with section 6.2 of SAE J198 <i>Windshield Wiper Systems - Trucks, Buses and Multipurpose Vehicles</i>. The bidder shall certify that the wiper system design has been tested and that the wiper system has met these criteria.</p> <p><u>ELECTRIC WINDOW DURABILITY CERTIFICATION</u></p> <p>Cab window roll-up systems can cause maintenance problems if not designed for long service life. The window regulator design shall complete 30,000 complete up-down cycles and still function normally when finished. The bidder shall certify that sample doors and windows similar to those provided on the apparatus have been tested and have met these criteria without malfunction or significant component wear.</p> <p><u>SEAT BELT ANCHOR STRENGTH</u></p> <p>Seat belt attachment strength is regulated by Federal Motor Vehicle Safety Standards and should be validated through testing. Each seat belt anchor design shall withstand 3000 lb of pull on both the lap and shoulder belt in accordance with FMVSS 571.210 Seat Belt Assembly Anchorages. The bidder shall certify that each anchor design was pull tested to the required force and met the appropriate criteria.</p> <p><u>SEAT MOUNTING STRENGTH</u></p> <p>Seat attachment strength is regulated by Federal Motor Vehicle Safety Standards and should be validated through testing. Each seat mounting design shall be tested to withstand 20 G's of force in accordance with FMVSS 571.207 Seating Systems. The bidder shall certify, at time of delivery, that each seat mount and cab structure design was pull tested to the required force and met the appropriate criteria.</p> <p><u>CAB DEFROSTER CERTIFICATION</u></p> <p>Visibility during inclement weather is essential to safe apparatus performance. The defroster system shall clear the required windshield zones in accordance with SAE J381 Windshield Defrosting Systems Test Procedure and Performance Requirements - Trucks, Buses, and</p>		

	Bidder Complies	
	Yes	No
<p>Multipurpose Vehicles. The bidder shall certify that the defrost system design has been tested in a cold chamber and passes the SAE J381 criteria.</p> <p><u>CAB HEATER CERTIFICATION</u></p> <p>Good cab heat performance and regulation provides a more effective working environment for personnel, whether in-transit, or at a scene. The cab heaters shall warm the cab 77 degrees Fahrenheit from a cold-soak, within 30 minutes when tested using the coolant supply methods found in SAE J381. The bidder shall certify, at time of delivery, that a substantially similar cab has been tested and has met these criteria.</p> <p><u>CAB AIR CONDITIONING PERFORMANCE CERTIFICATION</u></p> <p>Good cab air conditioning temperature and air flow performance keeps occupants comfortable, reduces humidity, and provides a climate for recuperation while at the scene. The cab air conditioning system shall cool the cab from a heat-soaked condition at 100 degrees Fahrenheit to an average of 78 degrees Fahrenheit in 30 minutes. The bidder shall certify that a substantially similar cab has been tested and has met these criteria.</p> <p><u>AMP DRAW REPORT</u></p> <p>The bidder shall provide, at the time of bid and delivery, an itemized print out of the expected amp draw of the entire vehicle's electrical system.</p> <p>The manufacturer of the apparatus shall provide the following:</p> <ul style="list-style-type: none"> • Documentation of the electrical system performance tests. • A written load analysis, which shall include the following: <ul style="list-style-type: none"> ○ The nameplate rating of the alternator. ○ The alternator rating under the conditions specified per: <ul style="list-style-type: none"> ▪ Applicable NFPA 1901 or 1906 (Current Edition). ○ The minimum continuous load of each component that is specified per: <ul style="list-style-type: none"> ▪ Applicable NFPA 1901 or 1906 (Current Edition). ○ Additional loads that, when added to the minimum continuous load, determine the total connected load. ○ Each individual intermittent load. <p>All of the above listed items shall be provided by the bidder per the applicable NFPA 1901 or 1906 (Current Edition).</p>		