

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF FORESTRY AND FIRE PROTECTION



EMERGENCY CREW TRANSPORT VEHICLE (ECT)

Specification # 22C-06-ECT-17

April, 2007

The California Department of Forestry and Fire Protection (CDF) protects the State of California from fires, responds to emergencies, protects and enhances the forest, range and watershed values while providing social, economic and environmental benefits to the citizens of rural and urban California.

This specification describes general requirements for the complete construction of fire crew transport vehicles. Crew transport bodies shall be fabricated and installed on vendor supplied diesel-powered cab and chassis. The completed vehicles shall be designated as California Department of Forestry 17 Passenger Emergency Crew Transport Vehicles.

The Emergency Crew Transport Vehicles will be used by the California Department of Forestry and Fire Protection (CDF) to respond to emergencies, which may include extensive traveling on mountain roads and forest truck trails that will impose extreme stress on all components. Safety of the fire crew shall be of the utmost concern in all phases of construction. The highest quality materials, state of the art components, including wiring, shall be utilized in the design and construction of the finished Emergency Crew Transport described in this bid solicitation.

Each vehicle is required to meet the following regulations, standards and laws in effect on the date of the "Invitation for Bid" including revisions, to the extent specified. The final completed vehicle certification is the responsibility of the firm constructing the body described herein.

- Federal Motor Vehicle Safety Standards (FMVSS)
- Code of Federal Regulations, Title 49, Chapter V-National Safety Bureau
- California Code of Regulations (CCR), Title 13
- California Vehicle Code
- California Health and Safety Code
- California Air Resources Board Regulations (CARB)
- OEM Body Builder Standards and Guidelines

Compliant to Requirement? Yes ___ No___ Exceptions_____

EXEMPTIONS: The Department of Forestry shall provide exemptions for certain items as specified in the attached Exemption No. MC 94-2 to meet the requirements of Title 13 of the California Administrative Code, Chapter II, Subchapter 6.5 Paragraph 1267, Item 2.

Compliant to Requirement? Yes ___ No___ Exceptions_____

TABLE OF CONTENTS

EMERGENCY CREW TRANSPORT

ADMINISTRATIVE REQUIREMENTS.....	SECTION 1
CAB & CHASSIS REQUIREMENTS.....	SECTION 2
BODY CONSTRUCTION.....	SECTION 3
COMPARTMENTS.....	SECTION 4
MISCELLANEOUS COMPONENTS.....	SECTION 5
BODY INTERIOR.....	SECTION 6
LIGHTS & ELECTRICAL.....	SECTION 7
EMERGENCY LIGHTING.....	SECTION 8
PAINT SPECIFICATIONS	SECTION 9

SECTION 1

ADMINISTRATIVE REQUIREMENTS

1.1 MINIMUM BIDDER QUALIFICATIONS: To demonstrate that bidders meet or exceed the requirements in this bid solicitation, all bidders must provide the following documentation.

- **At time of bid submission, all bidders “must” have evidence of compliance with FMVSS, a current final stage vehicle manufacturer’s license, and a State of California dealer’s license. No Exceptions**
- **At time of bid submission, all bidders must provide documentation that the structural integrity of the proposed body and their manufacturing standards meet or exceed the same performance standards of FMVSS # 220 “Static Roll Over Protection”.**
- **At time of bid submission, if the bidder is sub-contracting the manufacturing of the completed apparatus described herein, the bidder shall submit in writing, the name and location of the sub-contractor(s), and whether they meet the aforementioned requirements.**

NOTE: The following additional information may be requested by the State. If the following information is requested, it must be submitted within five (5) working days following official request. Inability to furnish requested documentation within five (5) working days may be cause for default.

- Upon request, must provide documentation of having two (2) previous consecutive years of experience in the fabrication of the vehicle type as described in this specification on a minimum 30,000 pound GVW chassis or larger.
- Upon request, must provide customer lists, contact names and numbers, type and style of apparatus manufactured during the previous two (2) years.
- Upon request, must provide documentation that they employ welders or inspectors currently certified by the American Welding Society or have received professional training available from recognized trade schools/learning institutions and are skilled in the fabrication of vehicle bodies constructed of aluminum.
- Upon request, must provide documentation that employees are currently certified or have attended factory available training equal to Navistar’s “Vehicle Integration Training” or have received similar OEM qualified “vehicle modifier training”. This training is required to modify or interface the chassis and body configurations, including training on multi-plex electrical circuits.

At any time during the construction process if the successful contractor is not providing the quality of manufacturing that is required by the CDF or is not adhering to the requirements in this specification or defaults on delivery schedules this contract may be terminated following the terms and conditions of the Department of General Services, Procurement Division, "General Provisions", latest edition.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

1.2 PRE-CONSTRUCTION CONFERENCE: A pre-construction conference shall be held at the successful bidders manufacturing facility between the manufacturer's representatives, a member of their engineering staff, construction supervisor and a minimum of two (2) CDF representatives within 30 calendar days after formal award of the purchase order.

This conference shall be held prior to the start of any construction. The purpose of this meeting is to review the specifications, resolve any questions concerning the specifications and/or any variations of the chassis and to provide the CDF with the opportunity to inspect the manufacturer's facilities.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

1.3 PRODUCTION SCHEDULE: At the pre-construction conference, the manufacturer shall submit a written tentative production schedule based upon the OEM chassis manufacturers estimated time of delivery. A subsequent written "firm delivery schedule" shall be submitted within thirty (30) days after the manufacturers chassis order has been placed, and shall be based upon the OEM's expected delivery dates at the time of chassis order. The manufacturer must have the chassis order placed within thirty (30) calendar days after the conclusion of the pre-construction conference.

At the minimum, the first Emergency Crew Transport shall be completed within 150 calendar days after conclusion of the pre-construction conference and receipt of written approval of all changes from the pre-construction conference, or after receipt of the cab & chassis, whichever is greater. After CDF's pre-acceptance inspection of the first completed unit at the manufacturers facility the remaining ECTs shall be completed at the rate of four (4) each per calendar month until completion of the contract.

The manufacturer shall be allowed a maximum of sixty (60) calendar days between the first unit's pre-acceptance inspection and the completion of the first group of multiple vehicles per the delivery schedule. This delay, if necessary is

to ensure the Emergency Crew Transport has been built to the satisfaction of CDF and/or if any discrepancies are noted during the construction that may result in change orders, and they are corrected prior to any further construction.

All deliveries are due on or before the last business day of every month. Should the last day of the month fall on a weekend or holiday, the delivery shall be made no later than the next business day.

NOTE: Failure to meet the delivery schedule shall result in penalties being assessed as stated in Section 1.5 Penalty Clause.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

1.4 CAB & CHASSIS REQUIREMENTS: The contractor shall provide the cab & chassis and construct a complete workable Emergency Crew Transport vehicle utilizing a commercially available 4 X 2 cab & chassis as specified later in this bid solicitation.

The odometer reading of each completed vehicle cannot exceed 5,000 miles at time of delivery to CDF. There will be assessed a penalty charge of \$1.00 per mile for each vehicle delivered with an odometer reading in excess of 5,000 miles, which will be deducted from the vendors invoice.

NOTE: Chassis(s) pre-payment and/or progress payments for materials is not offered in this bid solicitation and subsequent purchase order.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

1.5 PENALTY CLAUSE: The parties to this agreement acknowledge that the State shall incur actual damages should the contractor fail to perform the work as called out in this contract and specification or be unable to deliver the completed apparatus within the agreed upon contractor's production schedule.

The parties, therefore, have agreed to late delivery charges in the amount of \$244.00 per unit per work day which is the FEMA rental rate for a comparable unit. Work days are Monday through Friday inclusive, except declared State holidays observed Monday through Friday inclusive.

The parties also agree that the amount specified is not unreasonable nor punitive in nature because both parties have carefully considered the amount specified and believe it to be reasonable estimate, and not excessive at the time the Purchase Order is entered into.

It is therefore agreed, that the contractor shall pay the State of California the sum of \$244.00 per unit per workday (as stated above) for each workday the Emergency Crew Transport remains incomplete or unacceptable by the State. Penalty fees shall be assessed until the final acceptance and delivery of the completed Emergency Crew Transport to the Davis Equipment Facility. The total late delivery charges assessed against the contractor shall in no event exceed twenty-five (25 %) of the total value of the entire contract.

The contractor agrees to pay said damages as herein provided. In the event that such damages are not paid, the contractor agrees that the State shall deduct the amount thereof from any monies due or that may become due to the contractor.

Compliant to Requirement? Yes ___ No___ Exceptions_____

- 1.6 DRAWINGS:** At the time of bid submission, each bid must be accompanied by two (2) sets of scaled sales drawings. The drawings must include a top view, interior crew compartment, storage compartments and all four exterior sides. Generic drawings are not acceptable.

Blueprint drawings are not required, but should be made available for review by State representatives upon request after bid award. These engineered 3 dimensional "CAD" or isometric drawings shall include exploded views of all details and dimensions of construction including the following items: body assembly and mounting, exhaust system location, all compartments and doors, with dimensions and hardware, shelving, rear bumper assembly, location of emergency lighting and standard lighting including wiring, all exterior aluminum tread plate areas, access steps, grab rails, complete parts list and etc.

Compliant to Requirement? Yes ___ No___ Exceptions_____

- 1.7 PROTOTYPE:** Prior to bid submission, a current production model Emergency Crew Transport Vehicle (ECT), may be made available for inspection. Any inspection shall be by appointment only depending on vehicle in-service status. Interested bidders shall contact the California Department of Forestry and Fire Protection, Mobile Equipment Management, in Davis, California to arrange.

The prototype ECT may be a prior year model and should be used as a reference for general dimensions, quality of construction, placement of components, fit, finish and the critical construction clearances that the CDF requires and as a model for other minor details.

The prototype may not necessarily incorporate all of the provisions of this specification and the contractor will be responsible for those changes, additions

or adjustments as necessary to accomplish the objectives and descriptions of this specification.

After bid award, an ECT may be made available for further examination at a mutually agreed upon location and time, but the additional viewing of this vehicle cannot interrupt the daily crew schedule or interfere with any emergency crew mission.

Compliant to Requirement? Yes ___ No___ Exceptions_____

1.8 CLARIFICATIONS & CHANGE ORDERS: If conflicts with details or FMVSS guidelines addressed in the attached specification arise during construction, the contractor must request clarification from the California Department of Forestry and Fire Protection, Mobile Equipment Management.

The contractor shall make any approved allowances during construction if any differences exist between the attached specification, the cab and chassis, the cab to axle and/or frame dimensions, body construction details or basic component location, so that the component interface and body clearances can be maintained.

If deviations or changes are necessary, they shall be submitted for CDF's approval prior to the actual work being started. Submittals shall include a written description, parts lists, and if necessary, detailed drawings outlining the proposed changes. The drawings are necessary to evaluate the change and to update existing drawings.

If it is necessary, change orders amending the Purchase Order shall be signed by both parties, clearly indicating the reason for any deviation.

When required by law, the State Office of Procurement will issue a written change order.

Compliant to Requirement? Yes ___ No___ Exceptions_____

1.9 QUANTITY INCREASE / DECREASE: SECTION DELETED-not required with contract.

1.10 CURRENT PRODUCTION: The vendor supplied cab/chassis must be a current production model and the crew body shall be manufactured from current production materials, products and components. The use of any used,

proprietary products, rebuilt, non-current or prototype production materials, products or components is prohibited.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

1.11 CONTROLS AND ACCESSORIES: All contractor installed control or accessory item(s) that are interfaced or connected into the main OEM chassis, engine, transmission or electronic management system shall be installed as directed by the chassis manufacturer using OEM specified hardware and/or components.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

1.12 FABRICATION DETAILS: Minor details of construction and materials where not otherwise specified shall be left to the discretion of the contractor who shall be solely responsible for the design and construction of these components. Such details and other construction that is not specifically covered herein or not in variance with these specifications, shall conform to various sections of the U.S. Code of Federal Regulations, Title 49, Sub Chapter 6.5 Motor Carrier Safety Section, latest editions, where applicable, and/or any changes made to these specifications since that date.

If the cab and chassis are delivered with accessories or fittings that prevent the mounting of CDF specified components, (e.g. cab roof air horns, etc.) then such items shall be removed and all applicable body work shall be accomplished by the contractor.

During the fabrication of the Emergency Crew Transport, certain parts, pieces, or components may become unnecessary to the completion of the apparatus. Disposition of such parts shall be as directed by the CDF Representative.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

1.13 GENERAL CONSTRUCTION: All material and components shall be new and unused. All bolts shall be a minimum of cadmium-plated heat-treated, "SAE Grade 5", of proper length. All threaded nut fasteners shall have flat washers installed beneath the bolt head and nut and feature self-locking nuts or have lock washers. Any original equipment manufacture special design bolt (e.g. SAE Grade 8 flanged head, long-shoulder bolt) that is removed from the chassis during fabrication shall be reinstalled or replaced by the same type or grade and properly torqued to the manufacture's specifications.

All welds shall be free of slag, internal and external. All workmanship, welding, cutting, fabrication, and assembly shall be of high quality and in conformance with good manufacturing practices. All welding shall be according to AWS standards. Flame-cut edges shall be finished for a neat and uniform appearance. No welding or cutting will be permitted on the basic chassis without the CDF Representative's approval.

All brackets, braces, fitting, and other attachments shall be bolted to the frame or chassis. Existing holes in the standard truck frame shall be utilized wherever possible. If additional bolt holes are required, they shall be drilled through the web of the frame, at least twice the "hole" diameter distance from the start of the frame flange radius. All frame-mounted assemblies shall utilize SAE Grade 8, flange headed bolts and nuts. The use of rivets shall be restricted to "blind" areas and only where alternative fastenings are not feasible.

Components shall be located for ease of inspection, routine maintenance or removal. Drains, oil and fuel filters, filler plugs, grease fittings, air and water lines and etc., shall be located so that they are readily accessible and do not require special tools for servicing.

If the body construction causes restriction(s) to the OEM chassis lube fittings, (e.g. oil, fuel filters, spring pins and etc.) removable accessory panels shall be provided. Lube extensions, oil drain or fill extensions, or special tools required for minor chassis maintenance shall be provided by the contractor for each manufactured unit.

Securing of air, water, fuel and/or electrical lines, looms or harnesses shall not utilize stick-on or adhesive backed plastic fasteners. Only insulated metal clamps or clips shall be provided or OEM chassis manufacturer provided plastic clamps or bands can remain in place and do not require replacement with insulated metal clamps or clips. The use of OEM style heavy duty zip-ties is acceptable.

All components shall be designed and protected so that heavy rain, dust or other adverse weather conditions shall not interfere with normal operations.

NOTE: The use of dissimilar metals in the construction of the body module is unacceptable.

Compliant to Requirement? Yes ___ No___ Exceptions_____

1.14 QUALITY ASSURANCE: The contractor shall prepare a written Quality Assurance Plan (Quality Control) check list for each vehicle under construction. This check list, by serial and job number shall record the satisfactory completion

of each of the operationally tested item(s) or task(s) accomplished during the construction phase.

The written plan shall include all steps, checkpoints, forms and other documentation included in vendors the quality control program. This check list shall be made available for CDF to review during construction and a completed copy, signed off by the project manager, shall be submitted to the CDF Representative prior to the pre-acceptance operational test of each unit. This plan must be submitted to the CDF Representative during the pre-construction conference.

The contractor shall make the final inspection and operational test of each complete Emergency Crew Transport prior to notifying the CDF Representative that a unit has been completed and is operationally ready. These certification tests shall consist of, but not be limited to:

1. The inspection of all fabrication, construction and assemblies for details and completeness and proper operation of all accessories.
2. Checking all service (lube, oil, air, water) requirements of the completed vehicle and servicing as necessary with OEM recommended lubricants.

Compliant to Requirement? Yes ___ No___ Exceptions_____

1.15 PERSONNEL PROTECTION: Guards, shields, or other protection shall be provided where necessary in order to protect personnel from injury from hot, moving or rotating parts during non-maintenance operations.

Compliant to Requirement? Yes ___ No___ Exceptions_____

1.16 CDF REPRESENTATIVE: The CDF shall monitor the contractor in all phases of fabrication to and including final testing of each Emergency Crew Transport produced according to this contract. The term "CDF Representative" as used in these specifications will be a Forestry Equipment Manager II, assigned to the Department of Forestry and Fire Protection Fleet Management section.

Compliant to Requirement? Yes ___ No___ Exceptions_____

1.17 INSPECTION TRIPS: The CDF shall conduct inspection trips as described below. The scheduling of the required factory inspection trips will be discussed

during the pre-construction conference.

Inspection Trip #1: Two (2) CDF representatives shall travel to the contractor's fabrication facility for the initial pre-construction conference and facility inspection.

Inspection Trip #2: One (1) CDF representative shall travel to the contractor's fabrication facility for the quality assurance progress inspection of the initial vehicle under construction, including body construction and electrical wiring inspection prior to interior or exterior sheeting.

Inspection Trip #3: One (1) CDF representative shall travel to the contractor's fabrication facility for the pre-delivery inspection for the agency's initially completed ECT.

Inspection Trip #4: One (1) CDF representative shall travel to the contractor's fabrication facility for inspection of the first group of multiple vehicles at the quality assurance phase including body build-up under construction.

Inspection Trip #5: One (1) CDF representative shall travel to the contractor's fabrication facility for inspection of the first group of multiple vehicles at the pre-delivery stage.

Inspection Trip #6 & #7: One (1) CDF representative shall travel to the contractor's fabrication facility for two (2) randomly selected inspections to ensure contract compliance.

If additional inspection trips are desired by the CDF, those trips will be at no cost to the bidder.

It shall be the vendor's responsibility to:

- Notify the CDF Representative five (5) working days in advance for scheduling of any progress or pre-delivery inspections and/or prior to delivery of the completed vehicle.
- Minimize the number of trips by scheduling multiple vehicles for each inspection trip.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

1.18 TRAVEL EXPENSES: If the contractor's fabrication facility is located within the State of California, the CDF shall deduct the cost of travel and transportation

from Sacramento and return for respective inspection staff from the vendor's final invoice. The number and type of reimbursable trips are identified above.

Travel expenses shall be allowed in accordance with the Department of Personnel Administration (DPA) regulations, Title 2, California Administrative Code, Chapter 3, Subchapter 1, Article 2, Travel Expenses.

A brief description of the State per-diem rate follows:

Statewide

Lodging	\$ 84.00 + tax, w/receipt
Breakfast	\$ 6.00
Lunch	\$ 10.00
Dinner	\$ 18.00
Incidentals	\$ 6.00
Total:	\$124.00 + tax (for every 24 hour period)

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

1.19 OUT OF STATE TRAVEL: Should the contract be awarded to a vendor whose fabrication facility is located outside the State of California, all travel and transportation expenses for the CDF Representatives shall be arranged and pre-paid by the vendor. Travel and transportation expenses shall be arranged from Sacramento, Ca. to the contractor's manufacturing facility and return.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

1.20 TRANSPORTATION EXPENSES: Transportation expenses consist of the charges for commercial carrier fares, private or State vehicle mileage allowances, overnight and day parking for State or privately owned vehicles, bridge or road tolls, taxi or street car fares and all other charges essential for the transportation.

When air travel is used the CDF personnel shall use Sacramento International Airport. Claims for transportation by the scheduled airlines shall be allowed at the lowest fare available in conformity with the regular published tariffs for scheduled airlines in effect on the date the flight originated.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

1.21 PRE-DELIVERY INSPECTION: After completion of the first Emergency Crew Transport, the contractor shall contact the CDF Representative to schedule a pre-delivery inspection at the contractors manufacturing facility. The pre-delivery inspections may be scheduled in conjunction with other required inspection trips. Pre-delivery inspections on remaining units not conducted at the manufacturing facility will be conducted at the manufacturers closest Service Shop in Northern California. It is to the manufacturers benefit to have as many units completed during the time of the required factory inspections so ant pre-delivery inspection deficiencies may be corrected prior to delivery.

All items noted during this inspection shall be repaired, refinished or replaced prior to delivery. If items listed on the inspection list have not been repaired/replaced prior to delivery to the CDF Mobile Equipment Facility, it shall be the CDF's prerogative to reject the apparatus at the time of delivery until all repairs have been successfully completed to the satisfaction of the CDF.

Compliant to Requirement? Yes ___ No___ Exceptions_____

1.22 FINAL ACCEPTANCE / DELIVERY: The vendor is responsible to deliver all completed Emergency Crew Transports to the CDF Mobile Equipment Facility, 5950 Chiles Road, Davis, Ca. 95616.

The completed Emergency Crew Transport as presented to the CDF for the "final" acceptance shall be cleaned, internally and externally (freshly washed and chamois) and delivered full of fuel.

The final acceptance and operational check shall be accomplished within five (5) working days by the CDF after delivery to the CDF's Mobile Equipment Facility. This inspection shall include; specification compliance, workmanship, appearance, proper operation of all components and systems, re-inspection of items/repairs noted during the pre-delivery inspection and that all documents are present.

In the event that deficiencies were not corrected and/or additional deficiencies are detected, the Emergency Crew Transport shall be rejected and the contractor shall be required to make the necessary repairs, adjustments or replacements.

If the contractor receives notice that the Emergency Crew Transport is not acceptable, whether written or oral, the unit shipped to the purchase order destination shall be removed within seven (7) calendar days. If the contractor fails to remove said unit from the State's facilities within the specified period, the State may forward said Emergency Crew Transport to the contractor's repair center by common carrier at the dealer's expense and risk.

Payment and/or commencement of a discount period (if applicable) shall not be made until all defects are corrected and the Emergency Crew Transport is accepted. The contractor shall be responsible for any and all costs associated with returning a rejected unit to their designated repair center and return to the Davis Equipment Facility.

*Completion of the final acceptance and operational check by the CDF shall in no way release the contractor from satisfying the requirements of the contract, specifications or warranty.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

1.23 REPEAT INSPECTIONS: If additional inspections are required by the contractor or necessary because of vendor scheduling, inspection rejections or other contractor related cases, such repeat inspection trips shall be at the expense of the contractor at the rate as follows:

\$50.00 per hour including all travel and transportation expenses (includes travel time). The hourly rate shall be for a minimum eight (8) hour day if overnight travel is required. All expense claims for needed repeat inspection trips as described above shall be calculated at actual costs incurred, with receipts furnished to the contractor along with a reimbursement request/claim.

Transportation expenses for repeat inspections may consist of the charges for commercial carrier fares, private or State vehicle mileage allowances, overnight and day parking charges, bridge and road tolls, necessary taxi, bus or street car fares and all other charges essential to the transportation of the CDF Representative from Davis, Ca. to the contractor's manufacturing facility and return.

NOTE: Out of State travel expense and transportation for repeat inspection trips shall be arranged and pre-paid for by the vendor, the CDF hourly inspection rate shall be deducted from the invoice for the particular apparatus that requires a repeat inspection.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

1.24 VEHICLE WEIGHT RATING AND PAYLOAD: This agency is extremely concerned about the curb weight, payload allowance, center of gravity, weight distribution and side hill performance due to the equipment and personnel to be carried and the unique operating conditions encountered. The chassis

manufacturer's published gross vehicle weight rating for the vehicle shall not be altered.

At the time of the pre-construction conference, the contractor shall provide the CDF with the calculated axle weights of the Emergency Crew Transport as proposed by the manufacturer. It shall have a loaded weight distribution of 60% rear and 40% front, plus or minus 10% and a side to side tire load variation of no more than 7%.

Upon delivery, a certified weight slip shall be provided to the CDF showing total tare weight along with front axle, rear axle, left and right side weights for the first delivered Emergency Crew Transport.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

1.25 MANUFACTURERS REPRESENTATIVE: The successful bidder shall identify a qualified manufacturer's representative and a back-up representative, who must be employees of the company. This provides assurance that the CDF contract will be adequately supported even if the primary representative is unable to perform his/her duties due to illness or other circumstances.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

1.26 TECHNICAL SUPPORT: The successful bidder must be able to show evidence that adequately qualified staff will be readily available to provide timely technical support or training to the CDF at such locations as required by the CDF during the initial warranty period. Support shall be available either through employees of the bidding company or through sub-contracts that are in place at the time of the bid opening. If the bidder is not the manufacturer, the bidder cannot fulfill this requirement with personnel employed by the manufacturer unless the bidder has a binding contract with the manufacturer to provide technical support for this specification. Upon request, the bidder shall identify the name(s) and qualifications of the technical support personnel.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

1.27 SERVICE AND PARTS: During the 10 year warranty period an adequate stock of repair parts must be readily available. Replacement parts shall be made available to the CDF within a 72 hour time limit from the date of the order, whether the order is made by telephone or in writing. Freight or transportation

costs for parts are the responsibility of the contractor and the use of overnight delivery is required when a unit is out of service due to needed parts.

A minimum of two (2) authorized service and repair facilities shall be designated. One (1) authorized service and repair facility must be located in Northern California and one (1) authorized service and repair facility must be located in Southern California.

If the successful bidder does not have service facilities located in northern and southern California, a corporate letter along with a signed copy of the CDF In-Shop Warranty Agreement must be submitted, authorizing the CDF to obtain repairs at repair facilities of CDF's choosing and the manufacturer will be responsible for any and all costs for repairs during the warranty period.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

- 1.28 PREPARATION:** The contractor shall service all installed components with the OEM manufacturer's recommended lubricants, refrigerant or coolant. Service shall be prior to initial testing or operation of said components, i.e., Freon, radiator coolant and etc. The contractor assumes full responsibility for failure or damage to components caused by lack of, or improper service.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

- 1.29 GENERAL WARRANTY:** The successful contractor's basic warranty for each new Emergency Crew Transport manufactured or assembled by shall be structurally sound, free from defects in material and workmanship, free of joint separation and weld cracks for a minimum of ten (10) years, unlimited mileage, from the date that the unit is placed in service by the CDF, except for the specified items as described elsewhere in this specification as having different time limitations.

The warranty shall ensure that the Emergency Crew Transport has been manufactured to the contract specifications and will be free from defects in material and workmanship that may appear later under normal use and service within the warranty period.

Warranty certificates and/or cards shall be supplied for each individual unit that is manufactured.

The warranty period of individually vendor installed components that carry different time limitations shall start with the in-service date of the vehicle, not the

date of component manufacture and shall be the responsibility of the final stage manufacturer until those warranty periods expire.

Exclusions from the warranty shall include parts or parts of products becoming defective as a result of misuse, negligence, accident, failure to provide routine maintenance or normal wear and tear items.

Warranty issues during the 10 year basic warranty or component periods shall be at the contractor's expense. The contractor shall repair or replace any defective part or materials at no cost to the CDF during these time frames. The contractor may dispatch a traveling mechanic to perform minor warranty repairs. The use of a traveling mechanic in the performance of minor repairs does not relieve the manufacturer from the provision of the required Northern and Southern California parts and repair facility. Traveling mechanics may be used to minimize out of service time only, not substitute as a parts and repair facility.

If it is necessary for CDF to deliver the vehicle to the contractor's authorized Northern or Southern California repair facility, the contractor must notify CDF within 24 hours after the vehicle is delivered with an estimate of repair down time.

The manufacturer shall be responsible for any and all OEM installed chassis component(s) that fail prematurely or are damaged from improper installation or construction by their company.

If the contractor is unable or unwilling to perform warranty repairs to the satisfaction of CDF or is not performing these repairs in a timely manner it may be cause for elimination from bidding on future contracts.

The commercial chassis and OEM installed components shall be covered by the vehicle manufacturer's warranty.

The Emergency Crew Transports shall be maintained and serviced by CDF journey level repair technicians in accordance with the CDF Mobile Equipment Guidelines.

Repair technicians performing routine service, emergency repairs and/or minor modifications during the contractor's or subcontractor's warranty period shall not void any warranties. Questions concerning the maintenance program should be directed to CDF Fleet Management at (530)757-2407.

The CDF vehicles operate over a large portion of the State, and vehicles must be repaired throughout the State, the bidder shall indicate by letter the procedure to be followed by the CDF in handling items and conditions covered by the contractor's warranty or guarantee. A copy of these procedures and contractor's proposed warranty information must accompany the bid.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

1.30 CDF IN-SHOP WARRANTY REPAIRS: After delivery and during the warranty period, if the contractor is unable to provide warranty repairs in a timely manner, supply parts or requests to have the CDF perform In-Shop Warranty repairs, the contractor agrees to reimburse the CDF for any and all labor costs and replacement parts charges associated with any authorized CDF In-Shop Warranty Repair. In an effort to keep vehicle down time to a minimum during emergency conditions and due to the remote location of various CDF facilities, (e. g. "Fire Season") the CDF reserves the right, (after notifying the vendor) to proceed with any emergency repair of vendor responsibility. Contractor pre-approval shall be obtained by the CDF prior to any work being done that exceeds three (3) hours. CDF's preventive maintenance program shall be considered sufficient to meet all warranty requirements.

A signed copy of the attached CDF In-Shop Warranty Agreement must accompany the bid.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

1.31 CAB & CHASSIS WARRANTY: The commercial OEM cab & chassis manufacturer's published warranty shall be for a minimum period of 12 months or 12,000 miles, whichever occurs first. The warranty period will commence when each completed vehicle is placed in field service by the CDF.

Additional OEM warranty periods that reflect the cab & chassis being used in the Fire Service must be applied.

After CDF's final acceptance of the completed unit from the final stage manufacturer, CDF will assume responsibility in facilitating any cab & chassis warranty repairs with the OEM.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

1.32 ELECTRICAL WARRANTY: A seven (7) year electrical warranty shall be provided that covers all wiring harnesses for pinched, chaffed, or broken wires including the wiring terminals to be free of defects in materials, and workmanship under normal use.

1.33

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

warranty that covers all components, workmanship chaffed or broken electrical harnesses, hoses and loss of refrigerant.

Compliant to Requirement? Yes ___ No ___ Exceptions _____

1.34 EMERGENCY LIGHTING WARRANTY: A five (5) year manufacturer's warranty on the LED warning lights shall be provided.

Compliant to Requirement? Yes ___ No ___ Exceptions _____

1.35 AUDIBLE WARNING CONTROL WARRANTY: A five (5) year manufacturer's warranty on the siren control and a two (2) year manufacturer's warranty on the speaker shall be provided.

Compliant to Requirement? Yes ___ No ___ Exceptions _____

1.36 PAINT FINISH WARRANTY: The finish paint on the unit will be provided with a five (5) year paint finish guarantee for the following items: Peeling or delaminating of the topcoat or other layers of paint, cracking or checking, loss of gloss caused by defective materials or improper application. A copy of this warranty shall be submitted with the bid proposal.

Compliant to Requirement? Yes ___ No ___ Exceptions _____

1.37 OEM CAB & CHASSIS PUBLICATIONS: The following cab and chassis owner/operators manuals shall be supplied with each completed vehicle:

- 1 copy of Operator's or Owners Manuals applicable to the OEM cab and chassis shall be supplied for each apparatus.
- 1 copy of the OEM service manual for the make, model, year of the cab and chassis shall be supplied for each apparatus, an electronic version is acceptable.
- 1 copy of OEM line set tickets or a bill of materials of reproducible quality shall be provided. (This ticket shall identify each major component of the vehicle by name, model, and/or part number so as to be usable for obtaining

Compliant to Requirement? Yes ___ No ___ Exceptions _____

1.38 SERVICE/OPERATOR MANUALS: Prior to completion of the contract, the contractor shall furnish one (1) electronic version of “as built” electrical schematics, complete component and parts lists, serial numbers, line setting tickets and etc.

This information shall be furnished to CDF in a print ready version of “Microsoft Word” (or equal) to match the CDF’s # 6805 “Green Book” operators information pamphlet. The CDF shall supply the contractor with a sample for proper layout and formatting of the pamphlet during the pre- construction conference and upon CDF’s acceptance of the contractor’s format, the CDF shall provide for the printing of the “Green Book” pamphlet.

NOTE: CDF must be able to add information or “write” to the disk.

In addition, at the time of each unit delivery, the contractor shall supply the CDF two (2) each operators manuals for each completed unit. The manuals shall be 8 ½” X 11” binders and shall consist of copies of all service and operator manuals including all information required in the CDF “Green Book” pamphlet. One copy shall be labeled “Camp Copy” and the other shall be labeled “Shop Copy”.

Prior to completion of the contract, two (2) additional “master copies” shall be supplied to CDF Fleet Management.

Compliant to Requirement? Yes ___ No___ Exceptions_____

1.39 FINAL MANUFACTURERS I.D. LABEL: A final stage manufacturer’s identification label shall be attached to each completed Emergency Crew Transport in the cab on the driver’s side of the vehicle. The label shall be in compliance with the National Traffic and Motor Vehicle Safety Act, Section 114 and Federal Code of Regulations, Title 49.

It is the responsibility of the final stage manufacturer to certify that each completed Emergency Crew Transport meets all applicable safety standards of the National Highway Traffic Administration and the California Bureau of Motor Carrier Safety for a Type 1 Passenger Bus. The final completed vehicle certification label is the responsibility of the final stage manufacturer.

Compliant to Requirement? Yes ___ No___ Exceptions_____

1.39 IN-SERVICE NOTIFICATION: Vehicles delivered to the CDF may not be placed in service immediately upon final acceptance. The CDF shall notify the manufacturer in writing of the actual “in-service” date and mileage, but this date

will be no longer than sixty (60) days after CDF's final acceptance date of each completed vehicle.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

1.41 INVOICING REQUIREMENTS: Unless otherwise specified, invoices shall be sent to the address set forth herein. Invoices shall be submitted in triplicate and shall include the purchase order number, item number, unit price, extended item price, any cash discount offered and invoice total amount. State sales tax shall be itemized separately and added to each invoice as applicable.

Processing vendor payments and/or cash discounts (if applicable) shall be defined as beginning only after the Emergency Crew Transport has been delivered and the final acceptance inspection has been performed. If any late delivery charges apply, the penalty charges shall be deducted from each individual invoice. The CDF Representative's travel expenses (if applicable) shall be deducted from the vendor's final invoice.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

1.42 VEHICLE REGISTRATION: Registration for each completed Emergency Crew Transport with the California Department of Motor Vehicles (DMV) shall be completed by CDF Fleet Management after final vehicle acceptance.

At the time of delivery for each completed vehicle, the vendor shall provide the following:

- Bill of Sale/Application for Registration.
- Certified Weight Certificate (Tare Weight)
- Emission Control Certification (if such separate Certification is required by Department of Motor Vehicles).

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

CDF IN-SHOP WARRANTY AGREEMENT

Name of Vendor/Manufacturer _____
Warranty Representative (print or type) _____
Street Address _____
City, State, Zip Code _____
Telephone Number _____
Specification # _____ Solicitation # _____
Item (Quantity/Brand/Model) _____

When equipment is purchased for/by CDF, a section of the specifications requires the vendor/manufacture to enter into an In-Shop Warranty Agreement.

The terms of the In-Shop Warranty Agreement for this equipment are as follows:

1. Labor rate charged by CDF will be \$95.00 per hour.
2. Warranty claims will be processed on a CDF Work Order (ME-107) unless the vendor/manufacturer furnish their standard warranty form.
3. Vendor's/manufacturer's standard flat rate time schedules shall be used as a guide for In-Shop Warranty repair time. If a vendor's/manufacturer's flat rate time schedule is not available, CDF will use the time that is recorded on the CDF Work Order.
4. Replacement parts ordered from the vendor/manufacturer will be available within 5 working days from the date of notification, whether the order is made by telephone or in writing.
5. Replaced parts will be held 60 days for inspection by the vendor/manufacturer.
6. Original Equipment Manufacturers' parts will be used as replacement parts; or, if OEM parts are not available, after-market parts of equal or better quality will be utilized.
7. Copies of invoices for all parts will be provided to the vendor/manufacturer.

CDF will contact the vendor/manufacturer for authorization to perform In-Shop Warranty repairs as stated in this agreement. Only under extreme emergency conditions will In-Shop Warranty be performed without prior authorization. If CDF decides that the State will not perform the warranty work, the supplier shall pick up the unit within 48 hours of notification, written or verbal.

The In-Shop Warranty Agreement shall remain in effect until all conditions of the warranties in this State of California specification and in the original manufacturer's warranty expire.

Signature, CDF Senior Equipment Manager _____

Date

Signature, Vendor/Manufacturer _____

Date

SECTION 2

CAB & CHASSIS REQUIREMENTS

2.1 DIMENSIONS AND WEIGHTS:

- 4 X 2 chassis, two door standard conventional cab
- Manufacturer's gross vehicle weight rating (GVWR) to be not less than 33,000 lbs.
- Wheel base: 188" - 191"
- Back of cab to centerline of rear axle to be 120-124", clear and clean.
- Fuel tanks, air tanks, batteries or air dryers shall not extend rearward more than 6" beyond the rear vertical plane at the rear surface of the cab.
- Cab to end of frame to be not less than 205".
- Bare chassis and cab curb weight with specified tires to be maximum 12,000 lbs.
- Cab height not to exceed 106" unloaded.

NOTE: All dimensions noted above are estimates and shall be finalized at the pre-construction conference.

Compliant to Requirement? Yes ____ No ____ Exceptions _____ _____
--

2.2 FRONT AXLE: A minimum rating of 12,000 lbs. The front axle shall be equipped with O.E.M. hydraulic power steering. Axle hubs shall be provided with synthetic lube.

Compliant to Requirement? Yes ____ No ____ Exceptions _____ _____
--

2.3 REAR DIFFERENTIAL: Full floating; hypoid or spiral bevel; single reduction, rated not less than 21,000 lbs. Axle ratio to provide for 72 mph at engine governed RPM, "0%" road grade. Rear axle assembly shall be provided with synthetic lube.

NOTE: The rear differential shall be provided with a driver controlled locking rear differential.

Compliant to Requirement? Yes ____ No ____ Exceptions _____ _____
--

2.4 DRIVESHAFT: Heavy duty Spicer #SPL170XL series with center support. (or comparable)

Compliant to Requirement? Yes ___ No ___ Exceptions _____

2.5 BRAKES: A four channel, dual air “ABS” air brake system for straight trucks with “S” cam drum brakes, automatic slack adjusters and outboard mounted drums that meets all FMVSS shall be provided. A Bendix AD-IP air dryer shall be provided. (or comparable) The dryer height shall be no greater than the frame rail depth. The brake shoe dimensions for the front and rear axle shall be the maximum size available for the axles specified.

Compliant to Requirement? Yes ___ No ___ Exceptions _____

2.6 PARKING BRAKE: Rear wheel spring brakes with spring brake control shall be provided. The parking brake is to be set with "pull" action and released with "push" action and shall also be properly labeled.

Compliant to Requirement? Yes ___ No ___ Exceptions _____

2.7 AIR COMPRESSOR: The air compressor shall be a minimum of 13 CFM capacity, water-cooled. The compressor air source shall be routed from the engine air cleaner.

Compliant to Requirement? Yes ___ No ___ Exceptions _____

2.8 BRAKE HOSE: D.O.T. approved rubber brake hoses shall be provided at all brake chambers. All synflex air hose that are routed below the frame rails shall be wrapped with “Storm King Mountain” fire wrap lagging or equal.

Compliant to Requirement? Yes ___ No ___ Exceptions _____

2.9 CAB and DOORS: Shall be an OEM manufactured two (2) door standard cab with front fenders and a swept back front bumper painted body color. The cab entrance doors shall open 60 degrees.

Compliant to Requirement? Yes ___ No ___ Exceptions _____

2.10 CAB COMPLEMENT:

- OEM air-conditioning with integral heater, defroster and fresh air filter.
- One piece hi-strength composite tilt hood or tilt hood and fenders with stationary grille.
- OEM bug screen mounted behind the grille.
- Adjustable front hi-back bucket seats with a Bostrom (or comparable) air ride adjustable driver's seat and a non-suspension adjustable fixed passenger seat.
- Dual OEM Air Conditioning Compressors.
- Cab sound Insulation package.
- Black or grey rubber cab floor covering.
- Tinted glass all windows.
- Tilt steering wheel.
- Arm rest, all doors.
- Two adjustable sun visors.
- Dual electric 2-speed windshield wipers and washers.
- Dual electric horns.
- Data case in each door.
- Entry grab handle for each door w/ anti-slip rubber inserts.
- Keyed ignition switch shutoff.
- OEM logos or badges shall be shipped loose.
- Low air (brake) pressure warning device.
- Two electrically adjustable, heated swing-away, reset type rear view mirror assemblies with brackets appropriate to cab structure. The mirror heads shall be one piece frame, at least 6" X 16", with a minimum 7.44 sq. inch adjustable convex mirror mounted below the mirror head.
- There shall be safety belts/shoulder harnesses installed for each seating position, with metal-to-metal buckle, positive pelvic restraint where available. All belts and mounting must be FMVSS approved. The outside belt ends shall be equipped with OEM floor mount retractors. Three point belts shall be provided for each outboard seat position.
- The seat belts shall be Red or Safety Orange to comply with NFPA standards.
- Camper style rear window with center sliding window.

Compliant to Requirement? Yes ____ No ____ Exceptions _____

2.11 INSTRUMENTS and GAUGES: (Minimum Complement)

All gauges shall be in dash mounted.

- Indicating voltmeter.
- Air pressure gauge.
- Oil pressure gauge.

- AM/FM radio with CD player and weatherband with multiple speakers and antenna.
- Engine coolant temperature gauge.
- Transmission oil temperature gauge.
- Fuel level gauge.
- Speedometer, with trip meter, odometer.
- Intake air restriction gauge vacuum activated, meter type, resettable, Ref: Donaldson PN RAX 00-5806. Under hood mounting is acceptable.
- Tachometer, factory installed, dash mounted.
- Electronic hour meter

Where appropriate, warnings shall be visual and audible.

Compliant to Requirement? Yes ____ No ____ Exceptions _____ _____
--

2.12 INTERIOR SEATS and TRIM: Standard light gray color vinyl upholstery shall be provided. Vinyl seats with cloth inserts are not acceptable.

Compliant to Requirement? Yes ____ No ____ Exceptions _____ _____
--

2.13 ELECTRICAL SYSTEM: Shall be 12 volts with a heavy-duty alternator, rated at a minimum of 200 amps at 14 volts, internally regulated, automatic circuit breaker system protection standard and provided with the minimum features as listed:

- Increased alternator output at idle for Fire Service Applications.
- Heavy Duty OEM body builder wiring harness that provides separate stop/turn configuration that terminates at the end of the frame rails.
- Battery disconnect switch positive type, lever operated, mounted on the cab floor, driver's side. OEM chassis manufacturer supplied disconnect is acceptable.
- Body Builder interface for remote engine speed controls.
- Delco Remy MT 42 starter motor or comparable.
- Fan drive override switch.
- A 120 volt 1200 watt engine block heater (or as recommended by the engine manufacturer) and receptacle mounted below the driver's door.
- 2-Way Radio wiring effects. Wiring with minimum 20 amp fuse protection. Includes Ignition wire with 5 amp fuse wire ends heat shrink and 10' coil taped to base harness.
- Hand throttle, electronically controlled from within the cab to a pre-set RPM.
- Hi-Lo halogen sealed beam headlights with daytime running lights. The headlights shall be provided with a flash to pass feature.
- OEM installed fog lights w/clear lenses.

- Parking lights.
- Two rear stop and taillights.
- Instrument panel lights.
- Interior (courtesy) dome lighting, door switch operated (on both doors).
- Side marker lights.
- Clearance and identification lights.
- Two front mounted turn signal lights.
- Hazard warning light switch.
- Self-canceling flashing turn signal light switch (OEM).
- Three each BCI Group 31, minimum 2280 CCA total, 12-volt batteries.
- Air horn accommodation package, less horn.
- All lighting to meet FMVSS.
- 102 DBA back-up alarm.
- A dash mounted 40 AMP dual output switch that controls one remote power module outputs for hi-amperage loads such as a lightbar and emergency lighting.
- Electrical system to be "Multi-plex" wiring and components. It should incorporate a minimum of six (6) lighted dash mounted switches with legends, to be incorporated by the body builder for application and operation of installed interior, compartment and exterior work lights, load sequencing and other devices.
- The switch panel shall be "HOT" when the ignition switch is in the IGNITION/ON or ACCESSORY position. The purpose and location of these switches shall be discussed between CDF and the awarded bidder prior to ordering the chassis.

Compliant to Requirement? Yes ___ No ___ Exceptions _____

2.14 ENGINE: Shall be an inline six (6) cylinder diesel, turbocharged w/air-to-air intercooling with a minimum of 300 hp, and 950 lb-ft of torque that meets all Federal and California Air Resources Board (CARB) emissions requirements. The engine air intake shall be equipped with a two stage air cleaner with safety element. The air intake shall be equipped with an O.E.M. ember protection screen as per NFPA standards. The CDF will provide information if requested on this requirement.

A full flow spin-on oil filter meeting the O.E.M. engine manufacturer's recommendation is required. The engines crankcase and oil pressure system shall be designed to provide full pressure lubrication when ascending or descending a 36% grade or side slope.

Compliant to Requirement? Yes ___ No ___ Exceptions _____

2.15 AUXILIARY ENGINE BRAKING: An auxiliary braking device that supplements the vehicle wheel braking system and provides the maximum vehicle retardation available for the specified engine/transmission combination shall be provided.

The CDF prefers an O.E.M. installed electronically controlled engine compression brake/exhaust brake combination with a two position switch that can be turned OFF in either the LO or HI position. (Ref. Jake Brake)

If a “Jake” style engine brake is not available, an O.E.M. installed hydraulic output control for the Allison World Transmission, fully modulated, with a manually foot operated control and a dash mounted on-off switch shall be provided.

Compliant to Requirement? Yes ___ No___ Exceptions_____

2.16 TRANSMISSION: Shall be a fully automatic 6 speed, Allison 3000 EVS for a two wheel drive chassis. A water to oil transmission cooler is required and shall be equipped with an electronic oil level indicator. The shift quadrant shall be a “T-Bar” style control handle (if available). The transmission fluid shall be Allison’s “TranSynd” synthetic oil.

NOTE: If the transmission is bid with a retarder, it shall include pricing and description of an O.E.M. split cooler system for cooling of the retarder circuit separately of the transmission circuit. (Allison option) Non OEM external transmission coolers to meet this requirement are NOT ACCEPTABLE.

Compliant to Requirement? Yes ___ No___ Exceptions_____

2.17 COOLING SYSTEM: Shall be the manufacturer's maximum option available for the specified engine/transmission combination, thermostatically controlled with a pressure regulated overflow system, and a spin-on type coolant conditioner or 100,000 mile coolant. The system shall be designed to provide maximum cooling efficiency and circulation of coolant when ascending, descending, or parked (engine idling) on grades or side slopes within manufacturer’s suggested tolerances.

Compliant to Requirement? Yes ___ No___ Exceptions_____

2.18 FAN DRIVE: Horton Drivemaster with override switch or comparable.

Compliant to Requirement? Yes ___ No___ Exceptions_____

- 2.19 FRAME:** Shall be straight channel side rails.
- Frame rails shall be heat treated alloy steel, RBM to be minimum of 2,500,000 In.-Lbs.
 - 120,000 psi yield strength, maximum OAL.
 - Two (2) frame mounted front tow hooks.

NOTE: Stepped frames are not an option and will be rejected.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

2.20 SUSPENSION:

- Front springs: semi-elliptical or taper leaf with a total rated capacity at the ground equal to the maximum rating of the front axle.
- Front and rear heavy duty shock absorbers.
- Rear springs: semi-elliptical with 4500 pound semi-elliptical auxiliary rear spring(s), total rated capacity at ground equal to the maximum rating of the rear axle. Auxiliary spring shall begin load bearing at a maximum of 2" vertical travel of the main frame of the bare cab and chassis.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

- 2.21 WHEELS:** Seven each (7), ventilated, hub piloted, 10 hole, for flange nut installation steel single disc wheels shall be provided for each chassis. Rim size for the single fronts, dual rears, and a spare wheel shall be 22.5 X 8.25 rated for 11R22.5 tires. All wheels shall be interchangeable with each other. The wheel type and size must assure proper overall and compatible front and rear tread width. Both sides of all wheels shall be painted body color.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

- 2.22 TIRES:** Seven each (7) 11R22.5 load range "G", non-directional heavy duty truck and bus, single front, dual rears and a spare tire shall be provided for each chassis. The tread design on the two wheel drive chassis shall be highway tread on the front axle and Mud & Snow rated traction tread tires on the rear axle. The spare tire and wheel must be the same brand and design as the front tires and shall be secured in the spare tire carrier. See Section 5.1 Spare Tire Carrier.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

- 2.23 FUEL SYSTEM:** A 70-gallon minimum top draw steel tank shall be provided and mounted under the cab on the right side, or dual 50 gallon saddle tanks. The

tank mounting must not extend rearward past vertical alignment with the back of the cab. The fuel filtration equipment shall meet the engine manufacturer's requirements.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

2.24 EXHAUST SYSTEM: Shall be an OEM system, with a single frame mounted horizontal muffler. The tail pipe shall exit over the rear axle, and shall be mounted to provide as much ground clearance as possible, but not any lower than OEM specifications.

The exhaust pipe shall not exit near any windows. Heat shielding / protection shall be provided as required to protect such items as fuel lines, speedometer cables, electrical wiring, brake hoses, compartment floors, batteries, fuel or water tanks and etc. from high exhaust heat. Any routing or modifications to the vehicle exhaust system or the addition of exhaust system materials or components must be OEM chassis manufacturer approved and in no way shall void any chassis manufacturer emission warranties. The exhaust system requirements will be finalized at the pre-construction conference.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

2.25 OEM CAB PAINT: All cab and chassis painted surfaces except the cab roof shall be single color red, O.E.M. automotive basecoat/clear coat, including wheels, (both sides) frame, axles, drive lines, fuel tank(s), and bumper. The cab roof shall be painted white down to the drip rails or top of the door frames.

Paint Reference Brand: Sikkens # 2303 Red; Sikkens # 4146 White.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

SECTION 3

BODY CONSTRUCTION

All materials utilized shall be of open stock origin, commonly available through local sources for rapid and economical repair or modification of the body. The use of proprietary parts or materials in the construction of the body is unacceptable.

3.1 OVERALL VEHICLE & BODY DIMENSIONS:

- Overall length: Not to exceed 320" (excluding rear bumper)
- Body length: Not to exceed 198"
- Overall body width: Not to exceed 98" (excluding rub rails and mirrors)
- Overall body height: Not to exceed 124" (Fully loaded)
- Minimum ground clearance: Shall be no less than 18" (Fully loaded)
- Angle of approach: No less than 24 degrees (Fully loaded)
- Angle of departure: No less than 15-16 degrees (Fully loaded)

Note: All dimensions are estimates and shall be finalized at the pre-construction conference.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

3.2 INTERIOR BODY DIMENSIONS:

Length: Forward wall to rear doors: 190"

Width: Left wall to right wall: 93"

Interior ceiling height, to centerline of roof: Minimum 74"

Note: All dimensions are estimates and shall be finalized at the pre-construction conference.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

- #### 3.3 BODY STRUCTURE:
- The body shall be all aluminum and fully welded. Screw, bolts, rivets or other fasteners shall not be used for the attachment of any structural member or panel. The main structure shall frame in the compartment openings and provide intermediate skin support. All grid structure shall be welded together. The side skin shall be bonded to the structural grid.

All material utilized shall be of the correct type, alloy, and thickness to withstand the intended usage and provide protection against cracking, corrosion, or metal fatigue. The body sheet shall be reinforced with structural members designed to

resist deflection and hold up to extreme service per federal specification KKK-A-1822E 3.10.5. The entire unit shall be adequately reinforced and shall meet FMVSS 220 requirements.

Body frame members shall be tubular aluminum material. All critical structural points shall be reinforced with gussets. Heavier gauge and larger dimension structural members shall be used where necessary to provide a safe and durable body construction.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

3.4 RUB RAIL: Rub rails shall be bright finished extruded aluminum construction. The rub rails shall be at least 2.5" high x 0.75" wide and run along the lower edge of the body at the floor line, interrupted only by the wheel well opening.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

3.5 SIDE WALL, END WALL AND ROOF FRAMING: The side wall, end wall and roof framing shall be structural extruded aluminum tubing. For strength the sidewall vertical posts and roof cross members are to be welded on all four sides. The side wall, end wall and roof structure members are to be spaced a maximum of 16" on centers, except for the escape hatch framing which shall be wider to allow for the Transpec escape hatch.

The roofs shall form a crown along the center of the body or shall be flat as long as the design prevents water from pooling on the roof of the vehicle and the body meets the minimum interior dimensions. The interior roof framing in the forward section shall be flat for the mounting of the crew compartment air conditioning unit.

Roof shall utilize either a one piece roof construction or a two piece roof formed module construction as described, shall allow the wire harnesses to be routed without cutting the frame members and shall meet all specified test criteria.

One Piece Roof Construction:

Perimeter Extrusions: A double hollow extrusion shall provide a structural transition between the module walls and the roof assembly.

Roof: The roof sheet shall be derived from one piece. The four edges of the sheet shall be continuously welded to the roof rail extrusion to prevent leaks. The roof sheet shall be supported by structural supports located at the load-bearing points of the module body. The roof structural support beams shall be spaced on minimum 12-inch centers or as required for adequate load support.

Two Piece Roof Formed Module Construction:

Perimeter Structural Support: Formed module construction shall include a square tubing structure that shall provide required structural support for the roof and wall assembly.

Roof: The roof shall be constructed with a two piece roof sheet, full seam welded to prevent leaks, with formed roof corners. The roof structural support beams shall be spaced on minimum 12-inch centers or as required for adequate load support.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

- 3.6 EXTERIOR ROOF SKIN:** The roof skin shall be .125" formed aluminum full seam welded to the roof structure.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

- 3.7 DRIP RAIL:** An extruded, anodized aluminum drip rail running full length at the top of both sides and rear of the crew body and over all exterior compartments above the rub rail shall be provided. Drip rails shall be installed with stainless steel screws and be detachable for easy replacement. All drip rails shall be finished with 45 degree angled ends to avoid hooking materials which brush against the vehicle.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

- 3.8 EXTERIOR SIDE WALL SKIN:** The side wall skin on the aluminum body shall be .125" aluminum welded to the substructure. In addition to the welding a bond system shall be utilized full length on all wall and roof frame members. A polyurethane automotive grade adhesive sealant shall be applied to the edges of all structural tubing at the exterior wall surfaces.

Due to occasional rear body damage, the rear main body skirt shall be a bolt on design.

NOTE: The rear facing corner posts shall be approximately 5" wide to facilitate the mounting of rear emergency lighting.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

3.9 BODY SEAMS: The body and panel joints shall be watertight and all openings between the chassis and occupant compartment shall be sealed.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

3.10 INSULATION: All walls, ceiling, floor and the entrance door shall be insulated to enhance the interior environment and to prevent heat, cold and external noise from entering the crew compartment. The insulation shall be a non-settling polystyrene foam plank material of .75", 1.5" or 2" thickness depending upon location and available space.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

3.11 FLOORING: The sub floor for the aluminum body shall be .125" aluminum full seam welded to the cross and longitudinal sills. Welded to the sub floor sheeting, shall be aluminum tubing evenly spaced on minimum 12" centers to sandwich ridged foam board insulation between the sub floor and .125" non-skid aluminum diamond plate flooring.

The sub floor surface and the top of the wheel well tub shall be covered with non-skid .125" non-skid aluminum diamond plate. The aluminum shall be laid so that seams run parallel with the walls, with one seam at each fender well. The floor seam layout shall be discussed at the pre-construction conference.

The aluminum flooring shall be covered up the sidewalls approximately 3" to prevent water accessing beneath it.

A waterproof sealant shall be applied between the aluminum floor and sub floor surface and at all joint edges and seams.

Structural Integrity: The body shall be capable of providing impact, deformation and penetration resistance in the event of a collision. The body structure shall be capable of passing a stand-alone static load test on a type-tested body.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

3.12 WINDOWS: Six (6) crew windows shall be installed on the body, three (3) on each side adjacent to the crew seats, the approximate size shall be 19" high x 39" wide. HEHR model # 5471-39 and # 5472-39 with aluminum frames with the darkest limo tinted glass shall be provided, add on tint is not acceptable.

The contractor shall manufacture and install rigid mounted exterior steel privacy screens (See Section 3.15, Privacy Screens). This requirement shall be finalized at the pre-construction conference. All six windows shall be flip-up emergency exit style windows with two lift up emergency release levers on the inside of each crew compartment window frame.

A single, sliding camper style non-tinted window shall be installed on the forward wall of the crew compartment and shall be aligned with the sliding rear cab window of the particular truck chassis that is being supplied.

The rear entrance door shall have a tinted fixed window at interior eye height, approx. size to be 18" x 21" (Safety Glass) mounted in rubber. All windows shall meet the requirements of (Federal Title) 49CFR 571-217 and (State Title) 13 CAC 1268 and 1269, whichever is more restrictive.

Compliant to Requirement? Yes ___ No___ Exceptions_____

3.13 PRIVACY SCREENS: Rigid mounted exterior window privacy screens shall be designed and installed on all exterior side body windows. The screens shall be fabricated from a minimum of 16-gauge, perforated sheet steel or aluminum with 3/32" diameter holes spaced 5/32" apart. (Ref. McNichols Co.) To optimize air flow, all screens shall have enough forward facing louvers installed in order to meet or exceed the air flow volume of the OEM window screens, approximately 1000 FPS when measured with a velometer.

The internal portion of the windows shall remain completely operational, including opening, closing, swing arc travel and locking. In order to maintain emergency exit regulations all screens must be fastened to the outside window frame and under no circumstances shall the screens interfere or restrict the swing arc travel of the OEM windows. (See Attachment)

Compliant to Requirement? Yes ___ No___ Exceptions_____

3.14 EMERGENCY ESCAPE HATCH: A roof mounted emergency escape hatch, Transpec Model # 28MTG 1000-028-001, shall be installed. **NO EXCEPTIONS**

Compliant to Requirement? Yes ___ No___ Exceptions_____

3.15 REAR CREW DOOR: The door construction shall be 0.125" mill finish aluminum and use a heavy duty polished stainless steel continuous type hinge. The pin diameter shall be minimum 3/8", staked at least every 4" with 1" maximum joint

length. The rear center entrance door shall be double panel with a full height center hat section and installed flush fitting with the rear of the body. The interior door panel shall be removable to service door hardware.

The door shall be designed to be dust and weatherproof, utilizing recessed automotive closed cell door seals and be insulated. The approximate door size shall be 28" wide x 72" high.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

3.16 WHEEL WELLS: Shall be minimum .125". The wheel well to tire clearance shall be a minimum of 6" in a loaded condition to allow for installation of tire chains. A minimum .125" plate shall be welded to wheel well and side rail interior to reinforce the area where side rail was cut for the wheel well. Polished stainless steel or aluminum fender rings shall be installed following the contour of the wheel well opening.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

3.17 BODY MOUNTING: Particular attention should be directed to the method of body to chassis mounting. Due to the severe loading requirements the entire unit shall be adequately reinforced to carry the required loads and withstand the rigors of stressed off-road operation. The body shall not be bolted directly to the frame rails.

To provide the required amount of diagonal body flex, the body support system shall be designed, engineered and tested to reduce the natural flex stresses of the chassis being transferred to the body.

The body mounting system shall utilize a series of load carrying platforms that consist of a structural assembly that is attached to the passenger module understructure and is bolted to the outside of the chassis frame. Each body mounting location shall include a hard rubber isolation pad that is properly rated and matched to the passenger module operational weight.

All body mounting fasteners shall be a minimum of SAE Grade 8.

Body to frame mounting methods shall be finalized at the pre-construction conference.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

SECTION 4

COMPARTMENTS

- 4.1 COMPARTMENTS, GENERAL CONSTRUCTION:** All compartment dimensions quoted are approximate and may vary to accommodate batteries, exhaust system, spring hangers and etc. The final dimensions and configuration will be discussed at the pre-construction conference. All compartments shall be welded construction. Bolt together construction will be rejected.

Access holes with cover panels shall be provided in compartments to allow access to body mounting bolts and spring pins.

Brushed stainless steel or aluminum diamond plate covers (scuff plates) shall be installed on all exterior compartment thresholds (lower door frames). The scuff plates shall extend below the lower door frames at least 1 ¼" to protect painted surfaces.

All interior and exterior compartment floors and shelves shall be fitted with removable black colored Turtle Tile type material formed to cover the complete floor or shelf area. Two (2) minimum ¼" drain holes shall be installed in the under body compartment floors. Drain holes are not required in any interior or sweep out style compartment.

All under body compartments shall be removable bolt-on units that are fastened to the lower body structure cross sills. These compartments shall be bolted to end and intermediate brackets that are welded to the compartment and the corresponding brackets that have been welded to the cross sills. Self-tapping bolts are not acceptable.

All compartments except for the overhead storage compartments shall be sweep-out design with 360 degree air cell hollow compression door seals. Door frames on compartments with sweep-out design shall have a flange to allow the installation of a knock-on type air cell hollow core, 360 degree compression door seal to create a watertight, dust free compartment.

Each under body storage compartment shall be vented to the outside. All underbody compartments shall be vented with a 4" aluminum "Weber" style swivel vent with four (4) ¼" holes in the upper rear compartment wall (minimum dimensions). The swivel vent shall have a center bolt to lock the vent in either the open or closed position. The final vent design shall be approved by the CDF Representative prior to construction.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

4.2 COMPARTMENT DOOR CONSTRUCTION: All compartment doors shall be fully enclosed double panel style with covered access to the compartment latch. Compartment doors shall be fabricated from .125" aluminum on the outer panels and orbital sanded, removable, .125" aluminum on the inner panels. Inner panels shall be fastened to the inner door frame with Phillips or Torx head stainless steel counter sunk machine screws.

All compartment doors shall be flush fitting with a reinforced hat section. Compartment door openings over 26" long shall have two doors with no center post.

Unless otherwise specified, the compartment doors shall have polished, stainless steel, continuous-type hinges, with a pin diameter of minimum 1/4" and 1" joint length. The hinges shall be attached to the doors and compartment jambs using stainless steel bolts or screws.

The rear crew entrance and both rear tool compartment doors shall have polished, stainless steel, continuous-type hinges with a pin diameter of minimum 3/8" and 1" joint length.

The compartment door hinges shall be mounted on the leading edges of all compartments except the double door compartments.

Unless otherwise specified, compartment door latches shall be polished stainless steel bolt type recessed latches, Perfection # LAS-TL100KH, flush mounted stainless steel, Versch paddle type slam latches (or comparable which meet FMVSS 206 requirements), keyed to match the other body locks.

The rear tool compartment doors shall have a lockable door handle Hanson # 200072 (or comparable) and a 3-point latch assembly Austin # 107SS (or comparable).

All vertically hinged doors except the crew entrance door shall have over center door stays located in the upper jamb area. Cleveland model # 2395AA double spring chrome plated door stays (or comparable).

Rubber bumpers shall be installed on all surfaces where compartment doors may contact other doors or surfaces.

There shall be a polished or anodized aluminum drip rail installed above all compartments.

All compartment doors must be designed to ensure that no binding occurs while opening or closing when the vehicle is parked in flexed or twisted manner.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

4.3 DOOR LOCKS AND CHECKS: All compartment and door locks shall be keyed alike on each and all vehicles.

The crew compartment entrance door shall have an Eberhard socket type plunger #5602 (or comparable) to hold the door in the open position on any road surface. The plunger shall be installed with a support backing and shall be located to provide clearance from other doors when the entrance door is in the open position.

The entrance door handle, lock and retention device shall meet FMVSS standard # 206.

Dissimilar metal insulating gaskets shall be placed between the door handles and outer door panels to prevent any electrolytic reaction between dissimilar metals and to protect painted surfaces.

Compliant to Requirement? Yes ___ No ___ Exceptions _____

4.4 UNDERBODY COMPARTMENTS: Four (4) additional sealed, fully removable compartment modules shall be fabricated and bolted to tabs welded to the floor cross sills to allow use of available storage space below the body floor.

Two (2) full length storage modules shall be mounted ahead of the left and right rear wheels. The overall dimensions of each storage module shall be at least 18" high x 87" long x 21" deep.

The left side storage module shall have three vertically hinged compartment doors at least 19.25" high x 26" wide. The left forward side compartment shall be a sealed enclosed compartment for storage of the vehicle operator's personal gear.

The right side storage module shall have three vertically hinged compartment doors at least 18" high x 21" wide and one chock block storage compartment that is at least 17" high x 14.5" wide x 24" deep. The chock block compartment shall be located just ahead of the right rear wheel well. The vertically hinged chock block storage compartment door shall be at least 18" high x 16.5" wide. The chock block storage compartment is to store two chock blocks and shall have a fixed shelf with a at least a 4" set back.

Two (2) additional full length storage modules shall be mounted behind the left and right rear wheel wells. The size of the left storage module shall be at least 18" high x 52" long x 21" deep. The right side storage module shall be at least 18" high x 52" long x 19" deep to facilitate the mounting of the potable water tank behind this compartment. The size of the vertically hinged double doors shall be

at least 17.25" high x 20.40" wide. These two compartment modules shall have no center post.

NOTE: The minimum ground clearance of these compartments shall be 18".

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

4.5 COMPARTMENT SHELVES/TRAYS: All shelving or trays shall be manufactured from .125" brushed aluminum with at least a 2" vertical flange on all four (4) sides. The shelves shall be vertically adjustable, full height infinite, through the use of a slotted uni-strut type track material. The minimum capacity rating for compartment shelving shall be 500 pounds and the shelf tracks shall be welded to the compartment walls.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

4.6 INTERIOR STORAGE COMPARTMENTS: One (1) compartment that is at least 14" high x 21.5" wide x 24" deep and that is accessible from the crew compartment, shall be installed beneath the center of the rear facing bench seat. A vertically hinged, .125" aluminum, overlap compartment door with rubber door seals and a non-lockable polished stainless steel paddle latch shall be provided for this compartment.

Additional storage compartments shall be provided beneath both rear most forward facing crew seat pedestals that are at least 7" high x 17" deep x 32" wide. The compartments shall have a rubber seal with a drop down, overlap style door, a floor mounted, full length, horizontal, polished stainless steel, 1/4" hinge and a non lockable polished stainless steel paddle latch.

Two (2) full height, vertical, interior, storage compartments shall be provided on each side at the rear of the crew compartment. Each of these compartments shall be horizontally divided creating two (2) separate individual compartments, each at least 36" high x 24.50 wide x 32" deep. The compartments shall be a sweep out (no lip) design and the floor shall have a reinforced raised floor pan to create a lower door jamb. Each compartment shall have a separate vertically hinged recessed flush mounted door hinged to open towards the rear crew door. These compartment doors shall be fitted with lockable polished stainless steel latches (see section 4.2 Compartment Door Construction, paragraph 6) and shall be sealed with recessed weatherproof closed cell door seals. One (1) fully adjustable shelf shall be provided for each compartment.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

4.7 EXTERIOR MAIN BODY COMPARTMENTS: Two (2) exterior vertical tool storage compartments at the rear of the main body shall be provided. They shall be part of the main body construction at the left and right rear of the body. The exterior doors shall open to each outboard side and the compartments shall have sweep out floors. The doors shall have minimum 3/8" bolt-on polished stainless steel hinges.

These compartments shall be at least full height, floor-to-ceiling x 32.5" wide x 26" deep. The compartment doors shall be double panel style at least 70" high x 28" wide and shall be sealed with recessed weatherproof closed cell door seals. The door framing shall incorporate a full length hat section. The rear facing compartments shall have three evenly spaced vertical tubing posts added to the forward interior wall for mounting of tool racks.

Six (6) compartments (three (3) on each side) that will be part of the interior seat pedestals shall be provided. These compartments shall be accessible from the left and right exterior side of the main body. Each compartment shall be at least 16.5" high x 18" wide x 33.5" deep.

The compartment doors shall be at least 16.5" high x 18" wide, be flush mounted, double panel and hinged on the forward side. The doors shall be provided with lockable polished stainless steel latches (see section 4.2 Compartment Door Construction, paragraph 6), sealed with recessed weatherproof closed cell door seals. The compartments shall have a polished, stainless steel drip rail installed above the opening.

NOTE: Interior and exterior main body compartments shall have sweep out compartment floors.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

4.8 POTABLE DRINKING WATER CONTAINER: A 30 gallon, stainless steel or polystyrene potable water container shall be fabricated and installed on the interior floor of the right interior vertical compartment. Provisions for filling and venting the container shall be through a lockable compartment door located at the right rear side above the main body rub rail. The container shall be designed to be easily removable without having to remove the side storage compartment. Any fill or discharge hose shall be compatible for drinking water. (Automotive heater hose is not acceptable). A 3/4" household style hose bib shall be remotely installed at the lower edge of the container behind a minimum 18" wide x 16.5" lockable door for water discharge. The final water container design and materials shall be approved by the CDF Representative prior to construction.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

4.9 OVERHEAD STORAGE RACKS: Full interior body length, left and right overhead storage racks shall be installed in the crew compartment above the crew seats. The storage racks shall be fastened to the vertical body frame posts and to the roof frame members. Three evenly spaced vertical supports shall be fastened from the lower storage rack frame to the ceiling on the isle side of the racks. The storage racks shall be divided into three equally spaced compartments on each side and be at least 20" in depth with a clear opening of at least 12" high x 38" wide.

To ensure that storage rack openings are as large as possible, the isle side of the horizontal support rail shall not be any taller than 1 ¼". The lower support rail and vertical supports shall incorporate rolled edges on all rack openings. The rack floor sheeting shall be metal, with a pattern of laser cut vent/drain slots to aid in ventilation and cleaning of the compartment. The overhead storage rack shall have evenly spaced supports attached from the side wall to the lower frame. The supports shall be securely fastened or welded to the ceiling and side wall supports.

The racks shall have flat overlap type doors with a ¼" full length polished stainless steel horizontal hinge mounted along the ceiling. To facilitate removal, the hinges shall be bolted to both the door and the ceiling. The doors shall be reinforced to eliminate warping. Gas shocks shall be provided to hold the doors in the open position. Doors shall be secured in the closed position with a non-lockable bolt-on polished stainless steel paddle latch, Austin # 1DS SS (or comparable).

NOTE: The overhead storage racks shall be designed and mounted to allow at least 42" of head room from the top of the seat cushion to the underside of the rack.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

4.10 IN-CAB STORAGE: OEM installed seat pedestals that provide areas beneath both front in-cab bucket seats shall be fully enclosed. This underseat storage shall include horizontal hinged locking overlap drop down compartment doors on the outboard side of each seat frame. The under seat enclosures and doors shall be fabricated of minimum 1/8" orbital sanded sheet aluminum.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

4.11 CENTER CONSOLE: The contractor shall fabricate and install a center console storage compartment in the cab between the front bucket seats. The center console shall be black powder coated, .125 aluminum at least, 22" high x 19" wide x 20" deep. The console width shall not interfere with access to the

shoulder harness latches. The console shall be mounted to the cab floor with bolts, washers and nylock nuts.

The console interior shall have be provided with two (2) fully adjustable .125 aluminum dividers, a removable floor for complete access to the floor mounted electrical sub-panel, and a one piece aluminum compartment door. The compartment door shall be hinged on the rear side with a full length polished stainless steel hinge and a lockable polished stainless steel latches (see section 4.2 Compartment Door Construction, paragraph 6).

NOTE: All storage compartments shall be finalized during the pre-construction conference.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

SECTION 5

MISCELLANEOUS COMPONENTS

- 5.1 SPARE TIRE CARRIER:** A ratcheting type cable lift spare tire carrier shall be provided and installed under the chassis frame aft of the rear axle. The vehicle lug wrench shall be used to raise and lower the spare tire. The spare tire shall be secured to the carrier assembly in the raised position with four (4) "right hand thread" wheel studs and lug nuts of the same OEM type and style that match the vehicle. Access to the ratchet assembly shall be thru the rear entrance ladder compartment door.

The mounting location and proposed ratchet design shall be finalized at the pre-construction conference.

Compliant to Requirement? Yes ____ No ____ Exceptions _____ _____
--

- 5.2 REAR ENTRANCE LADDER:** The entrance ladder shall be fabricated from structural aluminum side channel with steel open expanded metal step treads (McNichols 9.5 X 1.5 grip strut or comparable).

The pull out rear entrance ladder shall be stored between the rear frame rails behind a flush mount compartment door with a lockable polished stainless steel latch (see section 4.2 Compartment Door Construction, paragraph 6). The compartment door shall be at least 14.50" high x 22.75" wide. The ladder shall have four (4) steps and a tread width of 16" x 10.50" deep x 8" rise. All steps shall be parallel to the main body when the ladder is in the extended position and shall meet NFPA step height requirements.

Steel pivot hinges shall have a metal backup where they are bolted to the aluminum side rails. Rubber bumpers or pads shall be installed at points of contact with the body or rear bumper when the entrance ladder is in lowered position. The lowest rung of the ladder shall have a chrome grab handle installed to aid in raising or lowering the ladder. This grab handle shall be installed so as not to create a tripping hazard.

The storage compartment shall include nylon guides for the ladder to slide on as it is lowered into position and shall be designed to not slide out during transit if the compartment door is open.

Two (2) vertical hand rails shall be externally mounted, one on each side of the rear entrance door and one (1) hand rail shall be diagonally mounted on the inside of the rear entrance door. Both shall meet NFPA #1901 grip requirements.

A cushioned door header pad shall be provided on the inside over the passenger entrance and covered with a safety yellow colored, naugahyde-type upholstery.

Compliant to Requirement? Yes ___ No___ Exceptions_____

5.3 REAR BUMPER: The rear bumper shall be a frame enclosed, full body width x 8" deep, stand off type, with a .50" gap between the bumper and body. The rear bumper shall be fabricated with 12 gauge galvanized steel grip strut material. A 2" hitch receiver shall be fabricated and flush mounted into the bumper framing on the right rear side. A hinged swing up type rear bumper design is required and when mounted, the loaded rear departure angle shall be no less than 15-16 degrees.

The outermost end of each corner shall be angled to prevent dragging of corners in high angle of approach/departure areas.

Compliant to Requirement? Yes ___ No___ Exceptions_____

5.4 REAR TOW EYE: Two rear tow eyes made from a minimum of .75" steel plate with a 3" I.D. eye shall be vertically attached to the left and right frame rails with a minimum of 5/8" grade 8 bolts, washers and self locking nuts at the rear of the chassis frame. The tow eyes shall extend through the rear body panel accessible above the rear step surface.

Compliant to Requirement? Yes ___ No___ Exceptions_____

5.5 FRONT TOW HOOKS: The OEM tow hooks supplied with the chassis shall be retained. If no OEM tow hooks are supplied, the contractor shall install two front mounted tow hooks or eyes.

Design of the rear step bumper, the front and rear tow hooks/eyes shall be reviewed and finalized by the CDF at the pre-construction conference.

Compliant to Requirement? Yes ___ No___ Exceptions_____

5.6 BRAKE COMPONENTS: Prior approval from the CDF Mobile Equipment Management must be obtained if any OEM brake component needs to be relocated. All synflex brake hoses that are routed below the frame rails shall be wrapped with "Storm King Mountain" Fire Wrap Lagging or comparable material.

Compliant to Requirement? Yes ___ No___ Exceptions_____

5.7 AIR HORN: A Grover Model # 1512 Stutter Tone air horn shall be provided. The air horn shall be located forward of the cab in the area of the left side of the front bumper and shall be activated by a floor mounted foot valve in the cab (driver's side). If the OEM provides a factory air horn control switch on the steering wheel, the air horn shall be interfaced with this switch and the floor mounted foot valve may be eliminated.

The air horn supply line shall be DOT approved synflex air hose. If the supply line is routed from an air tank, it shall terminate at a threaded bulkhead connector at the cab firewall. The exact air horn mounting location shall be finalized at the pre-construction conference.

Compliant to Requirement? Yes ___ No___ Exceptions_____

5.8 AIR INTAKE SCREEN: Stainless steel wire cloth screens shall be installed on the vehicles fresh air intake system, air filter housing opening and outside cab vent. The air intake, filter housing and cab vent shall be protected so to prevent particulate matter greater than .039 inches in diameter from entering the intake system. Particular attention is required on screening of the remote through the hood style intake systems. The wire cloth specifications shall be as follows; .014 inch, 304 stainless steel, 20 mesh per lineal inch. **NO EXCEPTIONS**

Compliant to Requirement? Yes ___ No___ Exceptions_____

5.9 DRIVELINE HOOPS: Bolt on driveline/driveshaft safety hoops shall be provided on the forward portion of all multi-piece drivelines. The hoops shall be fabricated from a minimum of .125" steel flat stock secured to tabs that are welded to the lower body sills. The hoops shall be bolted to the mounting tabs with a minimum of two (2) ½" grade 8 bolts, washers and self locking nuts on each side. The driveline hoops shall be designed to prevent a dislodged or broken driveshaft from impacting the ground or the passenger compartment floor.

Compliant to Requirement? Yes ___ No___ Exceptions_____

5.10 MUD FLAPS: Mud flaps shall be mounted behind the front and rear wheels in conformance with the California Motor Vehicle Code. The flaps shall be plain black (no logos or advertising) and be mounted at a distance back of the wheels to preclude flaps from being carried into the tires when backing into brush. Front mud flaps may be chassis OEM supplied. The mud flaps shall be securely fastened with full width stainless steel strips, bolts and lock nuts.

Compliant to Requirement? Yes ___ No ___ Exceptions _____

5.11 AIR COUPLING: Two industry standard 3/8" air chucks shall be provided, one (1) shall be mounted behind a compartment door on the rear body skirt near the area of the rear bumper receiver and one (1) shall be located near the driver's cab door. The air supply for the air couplings shall include an adjustable pressure protection valve and shall be plumbed from the chassis air system using aeroquip hose (or comparable) and brass or stainless steel fittings.

Compliant to Requirement? Yes ___ No ___ Exceptions _____

5.12 CHOCK BLOCKS: Two (2) chock blocks, Worden Safety Products Co., part # HWC-7HY shall be provided for each completed vehicle. **NO EXCEPTIONS TO BRAND**

Compliant to Requirement? Yes ___ No ___ Exceptions _____

5.13 LICENSE PLATE MOUNTING: Provisions shall be made to mount a standard size U.S. license plate per SAE J686 on the right rear of the bus body. The front plate shall be mounted on the OEM supplied location on the front bumper.

Compliant to Requirement? Yes ___ No ___ Exceptions _____

5.14 FUEL SYSTEM: The fuel tank vent line(s) connected from the fuel tank(s) shall extend vertically from the tank(s) to the bottom of the rear cab window and then bend 180° towards the ground. The vent line shall be the same I.D. as the OEM installed vent line. All contractor installed vent lines shall be copper, steel or Aeroquip, and shall be properly loomed and mounted with insulated metal fasteners to prevent chafing or damage. No fuel tank roll over protection check valves shall be removed from the fuel system.

The fuel tanks and lines shall be protected from radiant heat through the use of heat shields and all synflex fuel lines shall be protected with "Storm King Mountain" Fire Wrap Lagging or comparable material.

Any chassis fuel system modifications shall be fully compliant with FMVSS # 301 and the California Air Resources Board (CARB) standards.

Compliant to Requirement? Yes ___ No ___ Exceptions _____

SECTION 6

BODY INTERIOR

- 6.1 INTERIOR WALLS AND CEILINGS:** .The interior wall and ceiling sheeting for the aluminum body shall be a minimum of .090” aluminum that is either full seam welded, securely fastened with Phillips head countersunk threaded fasteners or riveted.

Compliant to Requirement? Yes ___ No ___ Exceptions _____

- 6.2 CREW AIR CONDITIONING/HEATER:** The crew compartment shall be equipped with an “American Cooling Technology” model # ACT-50HD (or comparable) self contained free blowing air conditioner/heater combination system. The system design shall operate independently of the chassis OEM air conditioner, with a minimum rating of 55,000 BTU/HR.

The condenser shall be structurally frame mounted behind a bolt-on removable formed metal screen on the exterior upper forward portion of the main body above the cab and shall include at least three (3) fans. All exterior installed components (e. g. condenser, hoses, etc.) shall be installed to allow for maximum deflection between the chassis cab and the crew compartment.

The a/c, drain and heater hoses shall be installed on the exterior wall between the rear of the cab and main body and be protected by full length hat sections, one (1) on each side. Bulkhead fittings shall be used where hoses pass through the forward compartment wall. All heater and refrigerant hoses shall be properly routed, secured and protected against abrasion. The hat sections must be located so it can be easily removed to gain access to the hose’s.

The air conditioning and heater shall be controlled by a “Climate Master” model # CM-1000 (or comparable) control panel mounted in the vehicle cab located within easy reach of the operator. The control panel shall control the hot water and refrigeration through the use of electric solenoids.

The evaporator shall be ceiling mounted above the sliding window on the interior forward bulkhead of the crew compartment. The evaporator cover shall have adjustable air outlet louvers. In addition, the contractor shall install a bolt on removable evaporator cover manufactured from formed metal. The cover shall not be any lower than the bottom of the overhead storage compartments. The design of this cover shall be discussed at the pre-construction conference.

All refrigerant hoses shall be Aeroquip GH-134 polyamide veneer construction with Areoquip E-Z Clip (or comparable), tube type fittings with swivel ends. Slip-on or barbed fittings will be rejected.

All tubing, heater hose and fittings for the hot water heater shall be of adequate size to provide maximum heating capacities and be routed, grommited, and clamped to preclude failure due to vibration. The hot water return line shall be equipped with a gate-type valve shut-off valve located at the engine block, Cal Bus Sales # 6600-01-29 (or comparable). The heater hose shall be "Gates Green Stripe" or comparable. Due to the length of the heater hoses, they shall be properly insulated to ensure minimum water temperature loss at the heater core.

Interior mounted a/c components shall not obstruct any emergency exits or walkways.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

6.3 EXHAUST VENTS: Two (2) 12 volt, variable speed, minimum 200 CFM exhaust fans shall be provided. The exhaust fan vent outlets shall be located on the street side and curb side upper forward corners of the crew body. Each exhaust outlet shall have a baffle installed to prevent entry of insects and debris. The switch and circuit control shall be located on the front left side of bulkhead inside of the crew body and shall be properly labeled.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

6.4 CREW SEATS: Freedman Seating Co. "Feather Weight Mid Hi" model (or comparable) passenger seating with grab handles at the top of each forward facing seat shall be provided and installed for the seating of seventeen (17) crew members. The seat backs and cushions shall be sloped according to the American Seating Standards for adults.

All material, installation and flammability requirements must meet FMVSS # 207 and # 302 requirements. The cushion covering material shall be heavy-duty school bus leather crushed grain finish, vinyl, TH Gray # 199 (or comparable). The seat covers shall be of the slipcover type, removable and replaceable without having to remove the entire seat. The molded seat backs shall be black or dark gray in color.

Five (5) rear facing seats shall be mounted on top of the forward storage compartment pedestal with the backrest fastened to the front wall of the body.

Six (6) forward facing seats, three (3) on each side, shall be installed on enclosed pedestals that shall be utilized as under seat storage compartments

All seat frames and seat belt assemblies shall meet or exceed FMVSS # 209 and 210 requirements. They shall be bolted through the reinforced pedestals with a minimum of 7/16" SAE grade eight bolts, body washers and nylock nuts.

Seat belts with metal-to-metal push button releases shall be provided for each passenger position. Seat belts shall be DOT certified, and shall be red in color. The seat pedestals shall be a reinforced design to support 600 pounds. The pedestals shall be sealed enclosures welded or securely fastened to the side wall and floor cross sill structural framing.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

SECTION 7

LIGHTS AND ELECTRICAL SYSTEM

7.1 WIRING: All wiring shall be "Cross Link Polyethylene" heat resistant type that meets SAE J1128 type SXL. The wiring shall be loomed, grommets, and routed the maximum distance away from possible high heat sources and properly clamped to body or frame members to preclude chaffing on other components. Only insulated metal clamps are acceptable for the fire service. Where holes are cut in the body structure for wiring they will have the whole circumference ground and filed smooth and rubber grommets shall be installed. All wiring within the compartments must be protected from internal load damage with removable aluminum covers.

The turn signal and hazard switch assembly supplied with the truck chassis may require that the flasher be upgraded by the contractor to meet California Vehicle Code (CVC) requirements. All emergency lights, marker, clearance, turn signal, headlights, and stop lights, must meet FMVSS and California Vehicle Code requirements.

The wiring harness shall be a "Class 1" (or equal) function coded every 3" and of a gauge that is rated to carry 125% of the maximum current for which the circuit is projected. The lighting, buzzer and the heater circuits are to be a minimum of 14-gauge. A Cole-Hersee # 24059 (or comparable) relay shall be used to activate the main power circuit; it shall be activated from the accessory terminal on the ignition switch. Battery cables shall be sized to match the OEM cables with crimped terminals and a black shrink tubing protecting the negative terminals and red for the positive terminals. An as built wiring schematic must accompany each unit upon delivery.

All uninsulated terminals AWG size 0-4/0 (starter and battery) shall be square crimped with a Roto crimp tool (AMP Special Industries # 600850-1) or comparable. The crimp area and wire shall be sealed with heat shrink tubing to protect it from moisture and strain relief. Soldered terminals and connectors are not acceptable.

All cab switches shall be self illuminating, labeled by function with engraved I.D. plates and fastened with machine screws and self locking nuts or rivets. Adhesive backed I.D. plates are unacceptable.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

7.2 ELECTRICAL INTERFACE PANEL: All body wiring shall be separate and distinct from the chassis wiring. A Class 1 (or comparable) relay and circuit board (power distribution board) shall be provided for the body wiring with

Deutsch style cannon plugs to allow for removal of the main body. The sub-panel shall be mounted on the cab floor beneath the removable floor in the center console. A "Class 1" (or comparable) 150 amp circuit breaker shall be located between the master disconnect switch and the sub-panel. All terminals on this panel shall be properly labeled and numbered with permanent moisture and heat resistant material.

This board shall contain independently switching relays with selectable input polarity. Each relay shall be protected by circuit breakers.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

7.3 MASTER DISCONNECT SWITCH: A Cole Hersee # M-2486-16 (or comparable) battery disconnect switch with face plate (Reference: # 82065) shall be provided and be mounted on the cab floor next to the drivers seat.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

7.4 TOGGLE SWITCHES / DOOR SWITCHES / SOLENOIDS / PILOT LIGHTS: Only marine grade weatherproof constant duty solenoids, relays, pilot lights, door switches and heavy duty toggle switches comparable to Cole Hersee # 551800 with screw terminals shall be acceptable. Spade type terminals or plastic switches are unacceptable.

NOTE: All switches shall meet immersion protection standards, IP65 (dust proof and protected from splashes and low pressure water jets)

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

7.5 DOME LIGHTS: Five (5) 12 volt dome lights, Intertek # ZY-157-1157 (or comparable) shall be installed in the crew compartment ceiling. Two (2) on each side spaced evenly above the forward facing crew seats and one centered in the rear crew entrance isle ceiling. All crew compartment dome lights shall be individually switched and also be master switched in the truck cab.

The master switch shall be wired so that it will power the lights at all times when it is in the on position except when the master disconnect switch is off. The interior light master switch and green indicator light shall be located on the OEM instrument cluster rocker switch panel if supplied. If rocker switch panel is supplied, a separate rocker switch and light that is labeled "interior lights" shall be provided and located within easy reach of the driver.

Compliant to Requirement? Yes ___ No ___ Exceptions _____

7.6 REAR CREW DOOR WARNING: A red "door open" warning lamp and buzzer Cole Hersee # 9023 (or comparable) shall be mounted in the cab. The warning lamp shall be mounted on the dash or on the overhead console within clear view of the driver and shall be properly labeled as to their function. Both the buzzer and lamp shall be operated only by the rear crew door switch on the rear entry door frame. The lamp and buzzer shall be disabled only when the parking brake is applied or when the master disconnect switch is off.

NOTE: The rear crew door switch shall be mounted and protected so as to be tamper proof.

Compliant to Requirement? Yes ___ No ___ Exceptions _____

7.7 CREW COMPARTMENT WARNING DEVICE: One (1) 12-Volt buzzer, Cole-Hersee # 4099, (or comparable) shall be located in the truck cab and controlled by a push button switch, Pollack # 52-600 (or comparable) located on the left side forward interior wall of the crew compartment near the center sliding glass window and be labeled "Cab Buzzer". This switch/buzzer shall work independently of the rear crew door open or open compartment door buzzer and illuminate a "Red" warning lamp labeled "Crew Buzzer" on the dash. The cab buzzer and light shall be wired to operate at all times except for when the master disconnect switch is in the off position.

Compliant to Requirement? Yes ___ No ___ Exceptions _____

7.8 OPEN COMPARTMENT DOOR WARNING: An open compartment warning light and buzzer is required on all compartment doors including the rear crew ladder door. An amber open compartment door warning lamp and buzzer shall be mounted in the cab and be labeled "Open Door". The warning lamp shall be mounted on the dash or on the overhead console within clear view of the driver.

Both the buzzer and lamp shall be activated by the individual compartment door switches. The buzzer and light shall be a separate circuit and work independently from the rear door buzzer and warning light. The open compartment door warning buzzer and light shall be disabled when the parking brake is set or when the master disconnect switch is off.

Compliant to Requirement? Yes ___ No ___ Exceptions _____

7.9 COMPARTMENT LIGHTING: All underbody and truck body compartments shall be illuminated by individual door activated switches. The under body compartment lights, (one light per compartment door opening) shall be a metal guarded style, Peterson # M-138C with B-106-09 chrome guard (or comparable). The rear tool storage and interior storage compartments lights shall be Signal-Stat # 9361-W (or comparable). The compartment lighting shall only be disabled when the master disconnect switch is off.

NOTE: All wiring harnesses and switches that are routed inside compartments shall be protected using a removable metal guard, in order to avoid damage from contents shifting during transit.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

7.10 AREA LIGHTING: Four (4), Whelan # 508 (or comparable) flush mounted area lights shall be installed on the upper side of the main body, two (2) on each side. Two (2) Hella Picador model # 90645 (or comparable), minimum 55 watt flood lights shall be provided on the rear of the body. One (1) shall be centered above each rear vertical tool storage compartment door, just below the traffic advisor light assembly.

The side lights shall be installed on the forward and rear exterior sides of the main body no higher than the than the top of the window frames. The lights shall be switched through the OEM instrument cluster rocker switch panel or the “master” rocker switch pack mounted on the center console. One (1) switch shall illuminate each pair of side lights and one (1) shall illuminate the rear lights and shall be labeled as to their function. The exact mounting location shall be finalized during the pre-construction conference.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

7.11 TAIL, STOP AND TURN SIGNAL LIGHTS: At the rear of the body on each side there shall be one (1) stop, tail and one (1) turn signal light. One (1) Peterson LED 417R (or comparable), brake, tail light, rubber mounted and one (1) Peterson LED 417A (or comparable) amber turn signal light, rubber mounted. In addition, forward of the rear wheel wells in line with the lower body rub rail there shall be a flush mounted amber LED mid-turn signal/marker light.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

7.12 CLEARANCE MARKER LIGHTS: The clearance and side marker lights shall be Peterson LED 163R (or comparable), rubber mounted and Peterson LED 163A

(or comparable), rubber mounted, wired into the existing tail light circuit and mounted as follows;

- 2 each amber, top front corner of body.
- 2 each amber, top front side corner of body.
- 2 each red, top rear corner of body.
- 2 each red, top rear side corner of body.

A red three light ICC cluster shall be mounted along the upper center of body above the rear crew door.

Compliant to Requirement? Yes ____ No ____ Exceptions _____ _____
--

7.13 REFLECTORS: Reflectors shall be Signal-Stat #57 (or comparable), center hole mount, 3" diameter and mounted as follows;

- 2 each red, rear lower corners of body.
- 2 each red, rear side lower corners of body.
- 2 each amber, front side lower corners of body.

Compliant to Requirement? Yes ____ No ____ Exceptions _____ _____
--

7.14 BACK-UP LIGHTS: Two (2) Hella Picador model # 90645 (or comparable), minimum 55 watt lights shall be mounted on the left and right rear truck frame rails and be wired into existing back-up light circuit.

Compliant to Requirement? Yes ____ No ____ Exceptions _____ _____
--

7.15 LICENSE PLATE LIGHT: The rear license plate shall be illuminated by a Del City LED # 73462 (or comparable) chrome light assembly.

Compliant to Requirement? Yes ____ No ____ Exceptions _____ _____
--

7.16 GROUND LIGHTS: Four (4) ground illuminating lights shall be provided Federal-Signal # 607116 (or comparable). One (1) shall be mounted on each side under the cab doors and two (2) below the rear of the body to fully illuminate the crew ladder area. The lights are to be illuminated only when the doors open.

Compliant to Requirement? Yes ____ No ____ Exceptions _____ _____
--

7.17 MAP LIGHT: An 18" rheostat controlled map light shall be provided and mounted on the dash. Federal Signal Littlite model # LF18ERB (or comparable)

Compliant to Requirement? Yes ____ No ____ Exceptions _____ _____
--

7.18 CDF MOBILE RADIO: The contractor shall supply the appropriate wiring harnesses, mounting brackets, related components, including the radio speaker for installation of a Kenwood TK-790 mobile radio, following the CDF Telecom Division's installation procedures, the radios shall be agency installed at a later date. Modifications to the vehicle dash board may be necessary depending on the chassis of choice.

NOTE: Mounting locations and installation procedures for the various radio components shall be finalized at the pre-construction conference.

Compliant to Requirement? Yes ____ No ____ Exceptions _____ _____
--

7.19 CDF RADIO ANTENNA: The vendor shall supply two (2) NMO 30' coax radio antenna cables, that are to be installed on crew body roof and terminate in the cab center console. One (1) Maxrad # MWB1320 (or comparable) antenna shall be installed on the module roof and the remaining base shall be covered with a metal weatherproof cover.

The cables shall be run through metal conduits routed through the left and right forward compartments. Access plates for antenna servicing shall be provided on the inside crew compartment ceiling.

Compliant to Requirement? Yes ____ No ____ Exceptions _____ _____
--

7.20 CDF RADIO INTERCOM SYSTEM: A two (2) station radio intercom system shall be installed and interfaced for a Kenwood TK-790 mobile radio. The two stations are to be located in the vehicle cab. Both positions shall have voice activated intercom and push to talk radio transmit abilities. Sigtronics model # US-67D with # SE-8 headsets (or comparable). The system shall also be interfaced through the siren speaker.

Compliant to Requirement? Yes ____ No ____ Exceptions _____ _____
--

7.21 AM/FM RADIO SPEAKERS: Two additional 6” radio speakers shall be flush mounted in the crew area ceiling and connected to the OEM AM/FM radio located in the cab. The speaker wire shall be run through a separate metal conduit routed through the front compartment of the body. The speakers shall be mounted in the area above the center isle and have an on-off switch mounted in the cab.

NOTE: Mounting locations and the installation procedures for the various radio components shall be finalized at the pre-construction conference.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

7.22 HIGH IDLE SWITCH: A high idle switch shall be provided on an instrument panel rocker switch and be labeled “hi-idle”. A green indicator light shall be provided adjacent to the switch. The light shall illuminate only when the conditions stated below are met. The switch must be capable of increasing the engine speed to 1000 rpm only when the transmission is in neutral and the parking brake is applied.

Safety interlocks are required to drop the engine rpm to idle when placing the transmission in gear or when the parking brake is released. If possible, the hi-idle function shall be interfaced with the vehicle electronic throttle circuit. The switch shall be located on the dash within easy reach of the vehicle operator and the cruise control feature of the vehicle shall not be disabled to achieve the hi-idle function.

NOTE: Required operational and safety features of this high idle switch shall be finalized at the pre-construction conference.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

7.23 BACK- UP ALARM: An ECCO SA917-PM2 (or comparable) electronic back-up alarm shall be installed in an appropriate location at rear of vehicle and wired to back-up light circuit.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

7.24 GROUND STRAPS: In addition to the OEM ground cables, the following ground cables shall be added; one (1) 4 gauge ground cable from the crew compartment power component panel to the chassis frame, and two (2) braided ground straps from the crew body to the chassis to reduce RF interference.

SECTION 8

EMERGENCY LIGHTING

An NFPA # 1901, latest edition, emergency lighting package shall be provided.

All emergency lighting shall be controlled through a “master” lighted rocker switch panel that is mounted on the center console or the OEM dash mounted rocker switch panel. The “calling for the right away” function, including any white forward facing emergency lights, including the headlight flashers shall be disabled upon applying the parking brake.

In addition, all white forward facing upper zone lights shall incorporate a separate rocker cut-off switch should that feature need to be separately disabled. The rear facing amber emergency lights shall also have the ability to be controlled separately.

The control features and emergency light operation requirements shall be discussed at the pre-construction conference.

The emergency lighting shall be wired through a TST # 1310010 (or comparable) re-settable circuit breaker.

Compliant to Requirement? Yes ____ No ____ Exceptions _____ _____
--

- 8.1 UPPER ZONE LIGHTING:** A low profile Code 3 LED light bar model # 2147-ALRC-261-LED (or comparable) shall be mounted on the cab roof as per the manufacturer’s recommendation with an inside cab support structure (10 gauge steel) added for roof strength. The light bar shall also automatically be disabled when the parking brake is applied.

The light bar shall be provided with a California steady burning front facing red and no rear facing lights.

Compliant to Requirement? Yes ____ No ____ Exceptions _____ _____
--

- 8.2 LOWER ZONE LIGHTING:** Two (2) Code 3 model # LXEX1F-RED (or comparable) lights shall be mounted in the front grill. Two (2) each Code 3 model # LXEX1F-RED (or comparable) intersection lights shall be mounted with one (1) on each side of the front bumper or fender area. Two (2) each Code 3 model # LXEX2F-RED (or comparable) lights and two (2) each Code 3 model # LXEX2F AMBER (or comparable) lights, shall be mounted on the left and right

rear facing corners of the body. Two (2) each Code 3 model # LXEX1F-RED (or comparable) side intersection lights, shall be mounted with one (1) on each side of the body in line with the body rub rail just aft of the rear wheel wells. All lower zone lighting shall be LED and have aluminum bezels.

NOTE: All lower zone emergency lighting shall have the appropriate colored lenses and “or comparable” brands must be of a surface mount style of light assembly.

Compliant to Requirement? Yes ____ No ____ Exceptions _____ _____
--

8.3 REAR TRAFFIC ADVISOR: A Federal-Signal model # SMLED 6-30 (or comparable) traffic advisor shall be mounted below the roof drip rail above the rear entrance door. The traffic advisor controller shall be recess mounted on the center console and be of the same manufacturer as the light assembly.

Compliant to Requirement? Yes ____ No ____ Exceptions _____ _____
--

8.4 AUDIBLE WARNING CONTROLS: A Code 3, MicroCom2, Model # 3992 (or comparable), minimum 200 watt electronic siren control shall be provided. It shall have a “Sure” noise canceling microphone with radio rebroadcast.

The siren shall be wired through the siren control head and the OEM horn ring and be activated only when the master switch is activated.

Compliant to Requirement? Yes ____ No ____ Exceptions _____ _____
--

8.5 SIREN SPEAKER: A 100 watt siren loudspeaker shall be provided and mounted within the front bumper area. Federal Signal DynaMax MS100 or a bumper mounted Cast Products # 4307 or comparable are acceptable.

Compliant to Requirement? Yes ____ No ____ Exceptions _____ _____
--

8.6 HEADLIGHT FLASHER: A headlight flasher (wig-wag), 90 FPM with high beam override shall be provided. It is to only be activated when the siren control master switch is activated and it shall be automatically disabled by applying the parking brake. The flasher shall also incorporate a separate cut off switch that is wired into the siren control, should the feature need to be interrupted. A Federal Signal model # FA4C-RDG, Whelen model # UHF 2150A or comparable

headlight flasher is acceptable. Installation of the headlight flasher system shall not void chassis manufacturer's warranty.

NOTE: The mounting locations of the siren controls, emergency lighting and siren speaker shall be finalized during the pre-construction conference.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

SECTION 9

PAINT SPECIFICATION

- 9.1 GENERAL:** All visible exterior surface areas shall be free of grind marks, dents, peen marks, paint sag, orange peel and/or unsightly workmanship when the finished vehicle is presented for the agency's acceptance. Paint shall be applied according to the paint manufacturer's directions on properly prepared and primed surfaces. The interior crew compartment and cabinet areas are to be well fitted and painted to the same quality of surface finish as the exterior surface standard.

The vehicle cab shall not be re-finished with the exception of the roof. When completed, all exterior painted surfaces of the entire main body shall be finished to be an exact color match of the OEM's commercially finished cab exterior. This includes repainting surfaces (e.g. chassis) that may have already received factory OEM or predelivery painting. When completed, all exterior painted surfaces of the entire vehicle shall be the single color specified red except the cab and body roofs. All removable items shall be painted separately to ensure finish paint is behind mounted items.

NOTE: If OEM supplied fuel tanks, steps, battery boxes or wheels (both sides) are not finished in the specified red they shall be refinished to match the specified red.

Compliant to Requirement? Yes ___ No___ Exceptions_____

- 9.2 MATERIALS:** The highest quality, state of the art, low V.O.C. acrylic urethane finishing system shall be utilized. (e. g. Sikkens, Dupont, PPG, or comparable. The finish coat shall be applied in multiple coats to ensure proper paint coverage with a high gloss finish. Application shall be in strict accordance with the paint manufacturer's instructions, including the number of coats and dry mil thickness.

Compliant to Requirement? Yes ___ No___ Exceptions_____

- 9.3 BODY STRUCTURE:** The tubular frame shall be clean, free of dirt and metal filings, and shall be prime painted prior to installation of the wall and roof panels. Prior to finish painting, all surfaces to be painted shall be thoroughly cleaned of oil, grease, dirt, and other foreign matter removed. All exposed fasteners, edges and seams on the outside panels, above and below the drip molding, shall be filled and water proofed.

Compliant to Requirement? Yes ___ No___ Exceptions_____

9.4 PRE-FINISH PAINTING: The chassis area and component parts that will be inaccessible for “finish” painting when the completed unit is to be painted shall be cleaned primed and painted the specified red before final assembly.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

9.5 BODY EXTERIOR: The top of body roof shall be primed and painted white down to the drip molding above the windows and on a line level with the drip molding across the front and rear walls. All other exterior surfaces, including all sides of the underbody compartments shall be primed and painted the specified red. All stainless steel hinges and door handles are not to be painted.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

9.5 CAB ROOF: If the OEM air horn is cab mounted, it shall be removed and the mounting holes shall be repaired using professional auto body practices and the entire roof shall be refinished the specified white down to the drip line.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

9.7 COMPARTMENT INTERIORS: The interior of all compartments including the interior crew compartments shall be finished with a heavy coating of light grey rhino coating (or comparable) except the rear exterior tool compartments which shall be finished in red rhino coating (or comparable). The insides of the compartment doors shall be painted the specified red or interior color prior to installing the inside door panel.

NOTE: All stainless steel hinges, door handles and compartment latches shall not be painted.

Compliant to Requirement? Yes ___ No ___ Exceptions _____ _____
--

9.8 INTERIOR: The interior of the crew compartment and the overhead storage compartments shall be primed and painted Sherwin Williams 362-30256, Fawn with 50%, (Semi-Gloss Tan) and Flattening Agent TIF270 or comparable. The inside side of the rear crew door shall be painted to match the interior color.

An interior finished in light grey rhino coating (or comparable) shall be considered.

Compliant to Requirement? Yes ___ No ___ Exceptions _____

9.9 UNDERCOATING: The entire underside of the body shall be cleaned and primed, including wheel housings, and shall be sprayed with a heavy coat of red rhino type coating material (or comparable) prior to installation of bolt-on lower compartments (excluding drive shafts, wheels, exhaust system and lubrication fitting). Rhino type coating material shall be the approximate body color and shall completely cover and seal the underbody. The underside and backside of the lower storage compartments shall be painted the specified body color.

An automotive grade under coating material in lieu of the Rhino type coating will be considered.

Compliant to Requirement? Yes ___ No ___ Exceptions _____

9.10 PAINT SPECIFICATION: Colors will be specified on the purchase order whether CDF or another agency is purchasing the vehicle.

- **CDF Red:** Sikkens 2303 Autocryl Acrylic Urethane or equivalent that matches cab exterior.
- **CDF White:** Sikkens 4146 Autocryl Acrylic Urethane or equivalent that matches the cab roof exterior or other agencies specified white.

Compliant to Requirement? Yes ___ No ___ Exceptions _____

9.11 INTERIOR INSTRUCTION / SAFETY LABELS: The contractor shall install and furnish the following labels as required by State and Federal regulations. The labels shall be engraved plastic, red with white letters, black with white letters or white with red letters and fastened with rivets. Adhesive backed labels will be rejected. Label style, color, size and mounting locations shall be finalized at the pre-construction conference.

- 2 each - USE OF SEAT BELTS IS MANADATORY AT ALL TIMES
- 2 each - NO SMOKING
- 1 each - EXIT
- 8 each - EMERGENCY EXIT
- 1 each - VENT
- 1 each - CAB BUZZER
- 2 each - KEEP ISLE CLEAR

Compliant to Requirement? Yes ___ No ___ Exceptions _____
