

# SUPPLY AGREEMENT NO. 1093

## AIRCRAFT RESCUE AND FIRE FIGHTING VEHICLE

THIS **Aircraft Rescue and Fire Fighting Vehicle Supply Agreement** ("Agreement") is entered into by and between the City of Corpus Christi, a Texas home-rule municipal corporation ("City") and Oshkosh Airport Products, LLC ("Supplier"), effective for all purposes upon execution by the City Manager or the City Manager's designee ("City Manager").

WHEREAS, Supplier has bid to provide an Aircraft Rescue and Fire Fighting Vehicle in response to Request for Bid No. **1093** ("RFB"), which RFB includes the required scope of work and all specifications and which RFB and the Supplier's bid response are incorporated by reference in this Agreement as Exhibits 1 and 2, respectively, as if each were fully set out here in its entirety.

NOW, THEREFORE, City and Supplier agree as follows:

- 1. Scope. Supplier will provide an Aircraft Rescue and Fire Fighting Vehicle in accordance with the attached Scope of Work, as shown in Attachment A, the content of which is incorporated by reference into this Agreement as if fully set out here in its entirety. "Goods," "products", and "supplies", as used in this Agreement, refer to and have the same meaning.
- 2. Term. This Agreement is for 12 months. This Agreement includes an option to extend the term for up to zero additional 0-month periods ("Option Period"), provided, the parties do so prior to expiration of the original term or the thencurrent Option Period. The decision to exercise the option to extend the term of this Agreement is, at all times, within the sole discretion of the City and is conditioned upon the prior written agreement of the Supplier and the City Manager.
- 3. Compensation and Payment. The total value of this Agreement is not to exceed \$855,155.00, subject to approved extensions and changes. Payment will be made for goods delivered and accepted by the City within 30 days of acceptance, subject to receipt of an acceptable invoice. All pricing must be in accordance with the attached Bid/Pricing Schedule, as shown in Attachment B, the content of which is incorporated by reference into this Agreement as if fully set out here in its entirety.
- 4. Contract Administrator. The Contract Administrator designated by the City is responsible for approval of all phases of performance and operations under this Agreement, including deductions for non-performance and

authorizations for payment. The City's Contract Administrator for this Agreement is as follows:

Name: Chief John Hyland Department: Department of Aviation Phone: (361) 289-0171 Ext. 1221 Email: JohnHy@cctexas.com

- 5. Insurance. Before performance can begin under this Agreement, the Supplier must deliver a certificate of insurance ("COI"), as proof of the required insurance coverages, to the City's Risk Manager and the Contract Administrator. Additionally, the COI must state that the City will be given at least 30 days' advance written notice of cancellation, material change in coverage, or intent not to renew any of the policies. The City must be named as an additional insured. The City Attorney must be given copies of all insurance policies within 10 days of the City Manager's written request. Insurance requirements are as stated in Attachment C, the content of which is incorporated by reference into this Agreement as if fully set out here in its entirety.
- 6. Purchase Release Order. For multiple-release purchases of products to be provided by the Supplier over a period of time, the City will exercise its right to specify time, place and quantity of products to be delivered in the following manner: any City department or division may send to Supplier a purchase release order signed by an authorized agent of the department or division. The purchase release order must refer to this Agreement, and products will remain with the Supplier until such time as the products are delivered and accepted by the City.
- 7. Inspection and Acceptance. Any products that are delivered but not accepted by the City must be corrected or replaced immediately at no charge to the City. If immediate correction or replacement at no charge cannot be made by the Supplier, a replacement product may be bought by the City on the open market and any costs incurred, including additional costs over the item's bid price, must be paid by the Supplier within 30 days of receipt of City's invoice.
- 8. Warranty. The Supplier warrants that all products supplied under this Agreement are new, quality items that are free from defects, fit for their intended purpose, and of good material and workmanship. The Supplier warrants that it has clear title to the products and that the products are free of liens or encumbrances. In addition, the products purchased under this Agreement shall be warranted by the Supplier or, if indicated in the bid specifications by the manufacturer, for the period stated in the bid

specifications. The bid specifications are attached to this Agreement and incorporated by reference into this Agreement as if fully set out here in their entirety.

- 9. Quality/Quantity Adjustments. Any quantities indicated on the Bid/Pricing Schedule are estimates only and do not obligate the City to order or accept more than the City's actual requirements nor do the estimates restrict the City from ordering less than its actual needs during the term of the Agreement and including any Option Period. Substitutions and deviations from the City's product requirements or specifications are prohibited without the prior written approval of the Contract Administrator
- 10. Non-Appropriation. The continuation of this Agreement after the close of any fiscal year of the City, which fiscal year ends on September 30<sup>th</sup> annually, is subject to appropriations and budget approval specifically covering this Agreement as an expenditure in said budget, and it is within the sole discretion of the City's City Council to determine whether or not to fund this Agreement. The City does not represent that this budget item will be adopted, as said determination is within the City Council's sole discretion when adopting each budget.
- 11. Independent Contractor. Supplier will perform the work required by this Agreement as an independent contractor and will furnish such products in its own manner and method, and under no circumstances or conditions will any agent, servant or employee of the Supplier be considered an employee of the City.
- 12. Subcontractors. Supplier may use subcontractors in connection with the work performed under this Agreement. When using subcontractors, however, the Supplier must obtain prior written approval from the Contract Administrator if the subcontractors were not named at the time of bid. In using subcontractors, the Supplier is responsible for all their acts and omissions to the same extent as if the subcontractor and its employees were employees of the Supplier. All requirements set forth as part of this Agreement, including the necessity of providing a COI in advance to the City, are applicable to all subcontractors and their employees to the same extent as if the Supplier and its employees had performed the work.
- **13. Amendments.** This Agreement may be amended or modified only by written change order signed by both parties. Change orders may be used to modify quantities as deemed necessary by the City.
- 14. Waiver. No waiver by either party of any breach of any term or condition of this Agreement waives any subsequent breach of the same.

- **15. Taxes.** The Supplier covenants to pay payroll taxes, Medicare taxes, FICA taxes, unemployment taxes and all other related taxes. Upon request, the City Manager shall be provided proof of payment of these taxes within 15 days of such request.
- 16. Notice. Any notice required under this Agreement must be given by fax, hand delivery, or certified mail, postage prepaid, and is deemed received on the day faxed or hand-delivered or on the third day after postmark if sent by certified mail. Notice must be sent as follows:

#### IF TO CITY:

City of Corpus Christi Attn: John Hyland Title: Airport Public Safety Chief Address: 1000 International Dr., Corpus Christi, Texas 78406 Fax: (361) 289-0215

#### IF TO SUPPLIER:

Oshkosh Airport Products, LLC Attn: Tom Carle Title: Regional Sales Manager Address: 3100 N. McCarthy Road, Appleton, WI 54913 Fax: (920) 749-2262

17. SUPPLIER AGREES TO INDEMNIFY, HOLD HARMLESS AND DEFEND THE CITY OF CORPUS CHRISTI AND ITS OFFICERS, EMPLOYEES AND AGENTS ("INDEMNITEES") FROM AND AGAINST ANY AND ALL LIABILITY, LOSS, CLAIMS, DEMANDS, SUITS AND CAUSES OF ACTION OF ANY NATURE WHATSOEVER ON ACCOUNT OF PERSONAL INJURIES (INCLUDING DEATH AND WORKERS' COMPENSATION CLAIMS), PROPERTY LOSS OR DAMAGE, OR ANY OTHER KIND OF INJURY, LOSS, OR DAMAGE, INCLUDING ALL EXPENSES OF LITIGATION, COURT COSTS, ATTORNEYS' FEES AND EXPERT WITNESS FEES WHICH ARISE OR ARE CLAIMED TO ARISE OUT OF OR IN CONNECTION WITH THIS AGREEEMENT OR THE PERFORMANCE OF THIS AGREEMENT, REGARDLESS OF WHETHER THE INJURIES, DEATH OR DAMAGES ARE CAUSED OR ARE CLAIMED TO BE CAUSED BY THE CONCURRENT OR CONTRIBUTORY NEGLIGENCE OF INDEMNITEES, BUT NOT IF BY THE SOLE NEGLIGENCE OF INDEMNITEES UNMIXED WITH THE FAULT OF ANY OTHER PERSON. SUPPLIER MUST, AT ITS OWN

EXPENSE, INVESTIGATE ALL CLAIMS AND DEMANDS, ATTEND TO THEIR SETTLEMENT OR OTHER DISPOSITION, DEFEND ALL ACTIONS BASED THEREON WITH COUNSEL SATISFACTORY TO THE CITY ATTORNEY, AND PAY ALL CHARGES OF ATTORNEYS AND ALL OTHER COSTS AND EXPENSES OF ANY KIND ARISING FROM ANY SAID LIABILITY, DAMAGE, LOSS, CLAIMS, DEMANDS, SUITS, OR ACTIONS. THE INDEMNIFICATION OBLIGATIONS OF SUPPLIER UNDER THIS SECTION SHALL SURVIVE THE EXPIRATION OR EARLIER TERMINATION OF THIS AGREEMENT.

#### 18. Termination.

(A) The City Manager may terminate this Agreement for Supplier's failure to perform the work specified in this Agreement or to keep any required insurance policies in force during the entire term of this Agreement. The Contract Administrator must give the Supplier written notice of the breach and set out a reasonable opportunity to cure. If the Supplier has not cured within the cure period, the City Manager may terminate this Agreement immediately thereafter.

(B) Alternatively, the City Manager may terminate this Agreement for convenience upon 30 days advance written notice to the Supplier. The City Manager may also terminate this Agreement upon 24 hours written notice to the Supplier for failure to pay or provide proof of payment of taxes as set out in this Agreement.

- 19. Assignment. No assignment of this Agreement by the Supplier, or of any right or interest contained herein, is effective unless the City Manager first gives written consent to such assignment. The performance of this Agreement by the Supplier is of the essence of this Agreement, and the City Manager's right to withhold consent to such assignment is within the sole discretion of the City Manager on any ground whatsoever.
- 20. Severability. Each provision of this Agreement is considered to be severable and, if, for any reason, any provision or part of this Agreement is determined to be invalid and contrary to applicable law, such invalidity shall not impair the operation of nor affect those portions of this Agreement that are valid, but this Agreement shall be construed and enforced in all respects as if the invalid or unenforceable provision or part had been omitted.
- 21. Order of Precedence. In the event of any conflicts or inconsistencies between this Agreement, its attachments, and exhibits, such conflicts and

inconsistencies will be resolved by reference to the documents in the following order of priority:

- A. this Agreement and its attachments; then,
- B. the bid solicitation document, including addenda (Exhibit 1); then,
- C. the Supplier's bid response (Exhibit 2).
- 22. Certificate of Interested Parties. Supplier agrees to comply with Texas Government Code Section 2252.908, as it may be amended, and to complete Form 1295 "Certificate of Interested Parties" as part of this Agreement.
- 23. Governing Law. This Agreement is subject to all federal, State, and local laws, rules, and regulations. The applicable law for any legal disputes arising out of this Agreement is the law of the State of Texas, and such form and venue for such disputes is the appropriate district, county, or justice court in and for Nueces County, Texas.
- 24. Federal Requirements. Supplier's performance under this Supply Agreement is at all times subject to compliance with the federal requirements and certifications in Attachment D, including several certifications which require written completion and execution by the Supplier in compliance with federal law and submission by the Supplier to the City concurrent with Supplier's bid. The content of Attachment D is incorporated by reference into this Supply Agreement as if the content was fully set out here in its entirety.
- 25. Entire Agreement. This Agreement constitutes the entire agreement between the parties concerning the subject matter of this Agreement and supersedes all prior negotiations, arrangements, agreements and understandings, either oral or written, between the parties.

(SIGNATURE PAGE FOLLOWS)

SUPPLIER	
Signature:	_
Printed Name:	

Title: Vice President and General Manager

Date: \_\_\_\_\_June 26, 2017

#### **CITY OF CORPUS CHRISTI**

Signature:

Printed Name: \_\_\_\_\_

Title:\_\_\_\_\_

Date: \_\_\_\_\_

Approved as to form: 4 Assistant City Attorney For Oty Attorney

#### Attached and incorporated by Reference:

Attachment A: Scope of Work Attachment B: Bid/Pricing Schedule Attachment C: Insurance Requirements Attachment D: Federal Contract Requirements

#### Incorporated by Reference Only:

Exhibit 1: RFB No. 1093 Exhibit 2: Supplier's Bid Response

### ATTACHMENT A: SCOPE OF WORK

#### VEHICLE SPECIFICATION, CLASS 4

#### AIRCRAFT RESCUE AND FIRE FIGHTING (ARFF) VEHICLE

1. <u>SCOPE</u>. This Specification (PS) covers a commercially produced diesel engine driven ARFF vehicle for an Index B airport. It includes a 1500 gallon water/Aqueous Film Forming Foam (AFFF) fire suppression system: 450 lb potassium-based dry chemical only.

The ARFF vehicle is intended to carry rescue and fire fighting equipment for the purpose of rescuing aircraft passengers, preventing aircraft fire loss, and combating fires in aircraft.

2. <u>CLASSIFICATION</u>. The ARFF vehicle(s) covered by this PS are classified in accordance with Part 139, Certification and Operations: Land Airports Serving Certain Air Carriers, Section 315, Aircraft Rescue and Firefighting: Index Determination; Section 317, Aircraft Rescue and Firefighting: Equipment and Agents; and Federal Aviation Administration (FAA) Advisory Circular (AC) 150/5220-10, Guide Specification for Aircraft Rescue and Fire Fighting (ARFF) Vehicles, as follows:

Airport Index	Vehicle Class	Minimum Rated Capacities (gallons/liters)
Index B	4	1500 gallon (5678 liter) water/AFFF solution

3. <u>VEHICLE CONFORMANCE/PERFORMANCE CHARACTERISTICS</u>. The ARFF vehicle will be in accordance with the applicable requirements of National Fire Protection Association (NFPA) 414, Standard for Aircraft Rescue and Fire Fighting Vehicles (2007 Edition), and AC 150/5220-10, Guide Specification for Aircraft Rescue and Fire Fighting (ARFF) Vehicles.

3.1 General Administration Requirements.

3.1.1 <u>Manuals</u>: Technical manuals will consist of operator, service, and parts manuals. All manuals are required to be provided in hardcopy and in digital format on CDs when requested.

3.1.1.1 <u>Technical manuals</u>. The overall format for the manuals will be commercial. Each technical manual will have a title page. Line art will be used to the maximum extent possible for illustrations and parts lists. One complete set of engine and transmission parts, service and operator's manuals will be packed with each vehicle.

- a. The contractor will provide digitized manuals in CD format when requested in addition to or in place of printed paper copies.
- b. The contractor will provide two complete sets of hardcopy manuals and / or CDs when requested.

3.1.1.1.1 <u>Operator's manual</u>. The operator's manual will include all information required for the safe and efficient operation of the vehicle, including fire extinguishing systems, equipment, and any special attachments or auxiliary support equipment. As a minimum, the operator's manual will include the following:

- a. The location and function of all controls and instruments will be illustrated and functionally described.
- b. Safety information that is consistent with the safety standards established by the Occupational Safety and Health Administration (OSHA) and NFPA.
- c. All operational and inspection checks and adjustments in preparation for placing the vehicle into service upon receipt from the manufacturer.
- d. Tie down procedures for transport on a low-boy trailer.
- e. Warranty information and the period of the warranty coverage for the complete vehicle and for any component warranty that exceeds the warranty of the complete vehicle. Addresses and telephone numbers will be provided for all warranty providers.
- f. General description and necessary step-by-step instructions for the operation of the vehicle and its fire extinguishing system(s) and auxiliary equipment.
- g. A description of the post-operational procedures (draining, flushing, reservicing, et cetera).
- h. Daily maintenance inspection checklists that the operator is expected to perform, including basic troubleshooting procedures.
- i. Disabled vehicle towing procedures.
- j. Procedures and equipment required for changing a tire.
- k. Schedules (hours, miles, time periods) for required preventative maintenance and required periodic maintenance.
- Line art drawing of the vehicle, including panoramic views (front, rear, left, and right sides) showing basic dimensions and weights (total vehicle and individual axle weight for the unloaded and fully loaded vehicle).
  For the purposes of this AC, "unloaded" is defined as a lack of agent, occupants and compartment load, and "loaded" is defined as including agent, occupants and compartment load.

3.1.1.1.2 <u>Service manual</u>. The service manual will identify all special tools and test equipment required to perform servicing, inspection, and testing. The manual will cover troubleshooting and maintenance as well as minor and major repair procedures. The text will contain performance specifications, tolerances, and fluid capacities; current, voltage, and resistance data; test procedures; and illustrations and exploded views as may be required to permit proper maintenance by qualified vehicle mechanics. The manual will contain an alphabetical subject index as well as a table of contents. The service manual will contain at least the following, where applicable:

a. Fire fighting system schematic(s).

- b. Hydraulic schematic.
- c. Pneumatic schematic.
- d. Electrical schematic.
- e. Winterization schematic.
- f. Fuel schematic.
- g. Schedules for required preventative maintenance and required periodic maintenance.
- h. Lubrication locations, procedures, and intervals for parts of the vehicle and equipment that require lubrication.

3.1.1.1.3 <u>Parts identification manual</u>. The parts manual will include illustrations or exploded views (as needed) to identify properly all parts, assemblies, subassemblies, and special equipment. All components of assemblies shown in illustrations or exploded views will be identified by reference numbers that correspond to the reference numbers in the parts lists. All purchased parts will be cross-referenced with the original equipment manufacturer's (OEM) name and part number. The parts identification manual will provide the description and quantity of each item used for each vehicle. The size, thread dimensions, torque specifications, and special characteristics will be provided for all nonstandard nuts, bolts, screws, washers, grease fittings, and similar items. The manual will contain a numerical index. The parts manual will contain a list of all of the component vendor names, addresses, and telephone numbers referenced in the parts list.

## 3.1.2 Painting, plating, and corrosion control.

3.1.2.1 <u>Finish</u>. Exterior surfaces will be prepared, primed, and painted in accordance with all of the paint manufacturer's instructions and recommendations. Vehicles will be painted and marked in accordance with AC 150/5210-5, Painting, Marking, and Lighting of Vehicles Used on an Airport. The interior finish of all compartments will be based on the manufacturer's standard production practice. This may include painting, texturing, coating or machine swirling as determined by the manufacturer. All bright metal and anodized parts, such as mirrors, horns, light bezels, tread plates, and roll-up compartment doors, will not be painted. All other surfaces capable of being painted must be in the appropriate yellow-green color.

3.1.2.2 <u>Dissimilar metals</u>. Dissimilar metals, as defined in MIL-STD-889, Dissimilar Metals, will not be in contact with each other. Metal plating or metal spraying of dissimilar base metals to provide electromotively compatible abutting surfaces is acceptable. The use of dissimilar metals separated by suitable insulating material is permitted, except in systems where bridging of insulation materials by an electrically conductive fluid can occur.

3.1.2.3 <u>Protection against deterioration</u>. Materials that deteriorate when exposed to sunlight, weather, or operational conditions normally encountered during service will not be used or will have a means of protection against such deterioration that does not prevent compliance with performance requirements. Protective coatings that chip, crack, or scale with age or extremes of climatic conditions or when exposed to heat will not be used.

3.1.2.4 <u>Reflective stripes</u>. A minimum eight (8) inch horizontal band of high gloss white paint or white reflective tape (Retroreflective, ASTM-D 4956-09, *Standard Specification for Retroreflective Sheeting for Traffic Control*, TYPE III & above) must be applied around the vehicle's surface. **This reflective striping shall match the current fleet**.

3.1.2.5 <u>Lettering</u>. The manufacturer will apply the airport's 'Name' and 'Insignia' (if available) in a contrasting color or by decal on both sides of the vehicle in long radius elliptical arches above and below the lettering center line. The size of the lettering will be a minimum of 2½-inches to a maximum of 6-inches. Reflective lettering is allowed if the material is the same as that which is used for the reflective stripe (as specified in AC 150/5210-5).

3.1.3 <u>Vehicle identification plate</u>. A permanently marked identification plate will be securely mounted at the driver's compartment. The identification plate will contain the following information:

- a. NOMENCLATURE
- b. MANUFACTURER'S MAKE AND MODEL
- c. MANUFACTURER'S SERIAL NUMBER
- d. VEHICLE CURB WEIGHT: kg (pounds)
- e. PAYLOAD, MAXIMUM: kg (pounds)
- f. GROSS VEHICLE WEIGHT (GVW): kg (pounds)
- g. FUEL CAPACITY AND TYPE: gals (gallons)
- h. DATE OF DELIVERY (month and year)
- i. WARRANTY (months and km (miles))
- j. CONTRACT NUMBER
- k. PAINT COLOR AND NUMBER

A second permanently marked information data plate will be securely mounted on the interior of the driver's compartment. The plate will contain the information required by NFPA 414, Standard for Aircraft Rescue and Fire Fighting Vehicles (2007 Edition), Section 1.3.5 Vehicle Information Data Plate. A single plate that combines or contains the information required for both plates is acceptable.

# 3.1.4 Environmental conditions.

3.1.4.1 Vehicle operation and storage temperature conditions will vary with geographical location. Thus, the locality temperature range can go from -40° to 110°F. Refer to NFPA 414 for vehicle winterization criteria.

3.1.4.2 Temperature range. The vehicle will be capable of satisfactory storage and operation in temperatures ranging from 33° to 110°F. The vehicle will be equipped with a cab, chassis, and agent winterization system, permitting operation at 33°F. The winterization system will not detract from the performance of the vehicle or the firefighting system in ambient temperatures up to 110°F.

3.1.5 <u>Reduction of potential foreign object damage</u>. All loose metal parts, such as pins, will be securely attached to the vehicle with wire ropes or chains. Removable exterior access panels, if provided, will be attached with captive fasteners.

## 3.1.6 <u>Vehicle Mobility</u>.

3.1.6.1 <u>Operating terrain</u>. The vehicle will be capable of operating safely on paved roads, graded gravel roads, cross country terrain, and sandy soil environments. Cross country terrain consists of open fields, broken ground, and uneven terrain. An off-road, high-mobility suspension system resulting in no more than 0.5 Grms acceleration at the driver's seat of the vehicle when traversing an 8-inch (20 cm) diameter half round at 35 mph (56 kph) must be provided. The suspension design by which the manufacturer meets the suspension performance requirements is at the manufacturer's discretion.

3.1.6.2 <u>Gradeability</u>. The fully loaded vehicle will be able to ascend any paved slope up to and including 50-percent.

3.1.6.3 <u>Side slope stability</u>. The fully loaded vehicle will be stable on a 30° side slope when tested in accordance with NFPA 414.

3.1.6.4 <u>Cornering stability</u>. The fully loaded vehicle will be stable in accordance with NFPA 414 when tested in accordance with NFPA 414.

## 3.2 <u>Weights and dimensions</u>.

3.2.1 <u>Overall dimensions</u>. The maximum dimensions listed below are desirable to ensure vehicles can be accommodated in existing fire stations. Likewise, the overall dimensions should be held to a minimum that is consistent with the best operational performance of the vehicle and the design concepts needed to achieve this performance and to provide maximum maneuverability in accordance with NFPA 414.

Vehicle Capacity	1500
/Dimensions	Gallon
Length (inches/cm)	433/110
Width (inches/cm, excluding	124/315
Height (inches/cm)	154/391

**NOTE:** For Airport Operator Validation: Consult AC 150/5210-15, Aircraft Rescue and Fire Fighting Station Building Design, Appendix A, to ensure vehicles measurements do not exceed existing airport fire station dimensions.

3.2.2 <u>Angles of approach and departure</u>. The fully loaded vehicle will have angles of approach and departure of not less than 30°.

3.2.3 <u>Field of vision</u>. The vehicle will have a field of vision in accordance with NFPA 414.

3.2.3.1 <u>Mirrors</u>. Combination flat and convex outside rearview mirrors will be installed on each side of the cab. The flat mirrors will be of the motorized remote control type, providing not less than 60° horizontal rotational viewing range. The flat mirrors will also have electrically heated heads. Mirror remote and heating controls will be located on the instrument panel within reach of the seated driver. To provide the driver a clear view of the area ahead of the vehicle and to eliminate potential blind spots, a rectangular mirror will be installed on the lower corner of each side of the windshield, having a minimum area of 35 square inches.

The vehicle will have a back-up (rear-view) camera with a display monitor mounted above the driver in the cab. Cameras and monitors that are designed to replace the function of the side-view mirrors are not an approved option in this specification.

# 3.3 <u>Chassis and vehicle components</u>.

3.3.1 <u>Engine</u>. The vehicle will have a turbocharged diesel engine that is certified to comply with the Environmental Protection Agency (EPA) and state laws for off-highway emission requirements at the time of manufacture. The engine and transmission must operate efficiently and without detrimental effect to any drive train components when lubricated with standard, commercially available lubricants according to the recommendations of the engine and transmission manufacturers. **Vehicle will have a high idle function for extended stand-by operations**.

3.3.1.1 <u>Acceleration</u>. The fully loaded vehicle will accelerate from 0 to 50 miles per hour (mph) on a level paved road within: 25 seconds.

3.3.1.2 <u>Maximum speed</u>. The fully loaded vehicle will attain a minimum top speed of 70 mph on a level, paved road.

3.3.1.3 <u>Pump and roll on a 40-percent grade</u>. The fully loaded vehicle will be capable of pump and roll operations on a paved, dry, 40-percent grade in accordance with NFPA 414.

3.3.1.4 <u>Altitude</u>. Where justified, the vehicle, including the pumping system, will be designed for operation at 2,000 feet above sea level.

3.3.2 <u>Engine cooling system</u>. The engine cooling system will be in accordance with NFPA 414. A label will be installed near the engine coolant reservoir reading "Engine Coolant Fill."

3.3.3 <u>Fuel system</u>. The fuel system will be in accordance with NFPA 414.

3.3.3.1 <u>Fuel priming pump</u>. The vehicle will be equipped with an electric or pneumatic fuel pump in addition to the mechanical fuel pump. The electric/pneumatic pump will be used as a priming pump capable of re-priming the engines fuel system.

3.3.3.2 <u>Fuel tank</u>. The vehicle will have one or two fuel tanks with a minimum usable capacity in accordance with NFPA 414, as amended by NFPA 414. Each tank will have a fill opening of 3 inches minimum, readily accessible to personnel standing on the ground and designed to prevent fuel splash while refueling. Each tank will be located and mounted so as to provide maximum protection from damage, exhaust heat, and ground fires. If more than one tank is furnished, means will be provided to assure equalized fuel level in both tanks. An overturn fuel valve will be provided for each tank to prevent spillage in the event of a rollover. Each fuel tank must be prominently labeled "Diesel Fuel Only".

3.3.4 <u>Exhaust system</u>. The exhaust system will be in accordance with NFPA 414. The exhaust system will be constructed of high grade rust resistant materials and protected from damage resulting from travel over rough terrain. The muffler(s) will be constructed of aluminized steel or stainless steel. Exhaust system outlet(s) will be directed upward or to the rear, away from personnel accessing equipment compartments and the engine air intake, and will not be directed toward the ground.

3.3.5 <u>Transmission</u>. A fully automatic transmission will be provided. The transmission will be in accordance with NFPA 414.

3.3.6 <u>Driveline</u>. The vehicle driveline will be in accordance with NFPA 414. If the driveline is equipped with a differential locking control, a warning/caution label will be placed in view of the driver indicating the proper differential locking/un-locking procedures. The operator's manual will also include a similar warning/caution. All moving parts requiring routine lubrication must have a means of providing for such lubrication. There must be no pressure lubrication fittings where their normal use would damage grease seals or other parts.

3.3.7 <u>Axle capacity</u>. Each axle will have a rated capacity, as established by the axle manufacturer, in accordance with NFPA 414.

3.3.8 <u>Suspension</u>. The suspension system will be in accordance with NFPA 414 and AC 150/5220-10, Guide Specification for Aircraft Rescue and Fire Fighting (ARFF) Vehicles.

3.3.9 <u>Tires and wheels</u>. Tires and wheels will be in accordance with NFPA 414. The vehicle will be equipped with single tires and wheels at all wheel positions. The vehicle will be equipped with tubeless steel belted radial tires with non-directional on/off-road type tread mounted on disc wheel assemblies. Tire and wheel assemblies will be identical at all positions. Tires and wheels will be certified by the manufacturer for not less than 25 miles of continuous operation at 60 mph at the normal operational inflation pressure. A spare tire and wheel assembly will be provided; however, the spare tire and wheel assembly are not required to be mounted on the vehicle. Tires will be new. Retreads, recaps, or re-grooved tires will not be permitted.

Tire bead locks, where justified, may be installed on all tires and rims.

3.3.10 <u>Towing connections</u>. The vehicle will be equipped with towing connections in accordance with NFPA 414. The vehicle will be designed for flat towing; the capability to lift and tow the vehicle is not required. The tow connections may intrude into the 30 degree approach angle.

3.3.11 <u>Brake system</u>. The vehicle will be equipped with a multi-channel all-wheel antilock brake system with at least one channel for each axle. The brakes will be automatic, self- adjusting and fully air-actuated. Brakes will be in accordance with CFR 49 CFR 393.40 through 393.42(b)), 393.43, and 393.43 through 393.52. The braking system, complete with all necessary components will include:

- a. Air compressor having a capacity of not less than 16 standard cubic feet per minute (SCFM).
- b. Air storage reservoir(s), each tank equipped with drain (bleed) valves, and with safety and check valves between the compressor and the reservoir tank.
- c. Automatic moisture ejector on each air storage reservoir. Manual air tank drains are acceptable if they are labeled, are centrally located in one compartment and are accessible by an individual standing at the side of the vehicle.
- d. Automatic slack adjusters on cam brakes or internal self-adjusting brakes on wedge brakes on all axles.
- e. Spring set parking brakes.

All components of the braking system will be installed in such a manner as to provide adequate road clearance when traveling over uneven or rough terrain, including objects liable to strike and cause damage to the brake system components. No part of the braking system will extend below the bottom of wheel rims, to ensure, in case of a flat tire, that the weight of the vehicle will be supported by the rim and the flat tire and not be imposed on any component of the braking system. Slack adjusters and air chambers will be located above the bottom edge of the axle carrier. 3.3.11.1 <u>Air dryer</u>. A replaceable cartridge desiccant air dryer will be installed in the air brake system. The dryer will have the capability of removing not less than 95 percent of the moisture in the air being dried. The dryer will have a filter to screen out oil and solid contaminants. The dryer will have an automatic self-cleaning cycle and a thermostatically controlled heater to prevent icing of the purge valve.

3.3.11.2 <u>Compressed air shoreline or vehicle-mounted auxiliary air compressor</u>. A flush mounted, check valved, auto-eject compressed air shoreline connection will be provided to maintain brake system pressure while the vehicle is not running. The shoreline will be flush mounted (not to extend outside the body line), located on the exterior of the vehicle, either on the left side rear corner of the cab, or at the rear of the vehicle. In lieu of a compressed air shoreline connection, the vehicle may be equipped with a 110 volt shoreline connected vehicle-mounted auxiliary air compressor. In lieu of a compressed air shoreline connection, the vehicle may be equipped with an electrical shoreline connected vehicle mounted auxiliary air compressor. A vehicle mounted 110v air compressor shall be provided for this contract.

3.3.12 <u>Steering</u>. The vehicle will be equipped with power steering. Rear-wheel steering technology is not an approved vehicle option.

3.3.12.1 <u>Steering effort</u>. The steering system performance will be in accordance with NFPA 414.

3.3.12.2 <u>Turning diameter</u>. The fully loaded vehicle will have a wall to wall turning diameter of less than three times the overall length of the vehicle in both directions in accordance with NFPA 414.

3.3.13 <u>License plate bracket</u>. A lighted license plate bracket will be provided at the left rear and left front of the vehicle. The location of the left front bracket will be placed so as not to interfere with the operation of fire fighting systems.

3.4 <u>Cab</u>. The vehicle will have a fully enclosed two door cab of materials which are corrosion resistant, such as aluminum, stainless steel, or glass reinforced polyester construction. Steps and handrails will be provided for all crew doors, and at least one grab handle will be provided for each crew member, located inside the cab for use while the vehicle is in motion. The lowermost step(s) will be no more than 22 inches above level ground when the vehicle is fully loaded. A tilt and telescoping steering column will be provided.

3.4.1 <u>Windshield and windows</u>. The windshield and windows will be of tinted safety glass. Each door window will be capable of being opened far enough to facilitate emergency occupant escape in the event of a vehicle accident. The vehicle windows will have an electric control system.

3.4.2 <u>Cab interior sound level</u>. The maximum cab interior sound level will be in accordance with NFPA 414.

3.4.3 <u>Instruments and controls</u>. All instruments and controls will be illuminated and designed to prevent or produce windshield glare. Gauges will be provided for oil pressure, coolant temperature, and automatic transmission temperature. In addition to the instruments and controls required by NFPA 414, the following will be provided within convenient reach of the seated driver:

- a. Master warning light control switch,
- b. Work light switch(es), and
- c. Compartment "Door Open" warning light and intermittent alarm that sounds when a compartment door is open and the parking brakes are released or the transmission is in any position other than neutral.

3.4.4 <u>Windshield deluge system</u>. The vehicle will be equipped with a powered windshield deluge system. The deluge system will be supplied from the agent water tank and will have an independent pumping system. The deluge system activation switch will be located within reach of the seated driver and turret operator.

3.4.5 <u>Forward Looking Infrared (FLIR)</u>. A forward looking infrared (FLIR) camera and incab monitor, meeting the requirements of NFPA 414, will be provided. In addition, the FLIR monitor described in NFPA 414 will have a minimum dimension of 10 in (25 cm) (measured diagonally) and be located in a position where it is visible to both the seated driver and turret operator.

3.4.6 <u>Climate control system</u>. The offeror/contractor's standard heater/defroster and air conditioning system will be provided. The climate control system will induct at least 60 cubic feet per minute of fresh air into the cab. Cab mounted components will be protected from inadvertent damage by personnel.

3.4.7 <u>Seats</u>. The driver seat will be adjustable fore and aft and for height. The turret operator's seat, located to the right front of the driver's seat, will be a fixed (non-suspension) type. Each seat will be provided with a Type 3 seat belt assembly (i.e., 3-point retractable restraint) in accordance with CFR 49 CFR 571.209. Seat belts must be of sufficient length to accommodate crew members in full Personal Protective Equipment (PPE).

3.4.7.1. <u>Seat Options</u>. Two types of seat options are allowed in the vehicle. A standard seat contains a hard/fixed back. For these seats, a remote-mounted bracket designed to store a Self-Contained Breathing Apparatus (SCBA) will be provided. The remote-mounted bracket for the driver and turret operator (at a minimum) must be placed inside the cab. The brackets for seat positions #3 and #4 may be placed outside of the cab if necessary. An SCBA seat, on the other hand, contains an opening which can accommodate someone wearing an SCBA. The chart below represents the user's stated preference for the vehicle seating configuration.

Position	Standard	SCBA-Seat	N/A
Driver		Х	
Turret		Х	
# 3		Х	
# 4		Х	

3.4.8 <u>Windshield wipers and washer</u>. The vehicle will be equipped with electrically powered windshield wipers. The wiper arms and blades will be of sufficient length to clear the windshield area described by SAE J198, Windshield Wiper Systems - Trucks. Individual wiper controls will include a minimum of two speed settings and an intermittent setting. The wiper blades will automatically return to a park position, out of the line of vision. The vehicle will be equipped with a powered windshield washer system, including an electric fluid pump, a minimum one gallon fluid container, washer nozzles mounted to the wiper arms (wet arms), and a momentary switch.

3.4.9 <u>Warning signs</u>. Signs that state "Occupants must be seated and wearing a seat belt when apparatus is in motion" will be provided in locations that are visible from each seated position in accordance with NFPA 414."

3.4.10 <u>Lateral accelerometer and/or stability control system</u>. The vehicle will be equipped with a lateral accelerometer and/or an electronic stability control system in accordance with NFPA 414.

3.4.11 <u>Monitoring and Data Acquisition System (MADAS)</u>. The vehicle will be equipped with a MADAS as prescribed by NFPA 414.

Body, compartments, and equipment mounting.

3.5.1 Body. The vehicle will have a corrosion-resistant body.

3.5.2 <u>Compartments</u>. The vehicle body will have lighted compartments in accordance with NFPA 414 with a minimum of 10 cubic feet of enclosed storage space.

3.5.2.1 <u>Compartment doors</u>. Storage compartments will have clear anodized aluminum, counterbalanced, non-locking, roll-up or single hinged doors as determined by the manufacturer. Door latch handles on roll-up doors will be full-width bar type. Door straps will be provided to assist in closing the compartment doors when the rolled up or hinged door height exceeds six feet above the ground.

3.5.2.2 <u>Scuffplates</u>. Replaceable scuffplates will be provided at each compartment threshold to prevent body damage from sliding equipment in and out of the compartments. The scuffplates will be securely attached to the compartment threshold but will be easily replaceable in the event of damage.

3.5.2.3 <u>Drip rails</u>. Drip rails will be provided over each compartment door.

3.5.2.4 <u>Shelves</u>. An adjustable and removable compartment shelf will be provided for every 18 inches of each vertical storage compartment door opening. Shelving adjustments will require no more than common hand tools, and will not require disassembly of fasteners. Shelves will support a minimum of 200 pounds without permanent deformation. Each shelf will be accessible to crew members standing on the ground or using a pull out and tip-down configuration. Each shelf will have drain holes located so as to allow for drainage of any water from the stowed equipment.

3.5.2.5 <u>Drainage mats</u>. Each compartment floor and shelf will be covered with a removable black mat designed to allow for drainage of any water from the stowed equipment.

3.5.3 <u>SCBA storage tubes</u>. A single compartment or tubes for storage of four SCBA bottles will be provided. If tubes are provided, two will be installed on each side of the vehicle. The tubes will be of sufficient size to accommodate the procuring agencies SCBA cylinders.

3.5.4 <u>Ladder, handrails, and walkways</u>. Ladder, stepping, standing, and walking surfaces will be in accordance with NFPA 414. Handrails will be provided in accordance with NFPA 414. The lowermost step(s) or ladder rungs will be no more than 22 inches (56 cm) above level ground when the vehicle is fully loaded. The lowermost steps may extend below the angle of approach or departure or ground clearance limits if they are designed to swing clear. The tread of the bottom steps must be at least 8 inches (20 cm) in width and succeeding steps at least 16 inches (40 cm) in width. The full width of all steps must have at least 6 inches (15 cm) of unobstructed toe room or depth when measured from, and perpendicular to, the front edge of the weight-bearing surface of the step.

3.5.5 <u>Ancillary equipment</u>. Ancillary equipment listed in NFPA 414 A.4.2.1 (1)-(17) is not covered by this Procurement Specification in accordance with AC 150/5220-10, Guide Specification for Aircraft Rescue and Fire Fighting (ARFF) Vehicles. Ancillary equipment is funded separately by other sources.

## 3.6 <u>Agent system</u>.

3.6.1 <u>Agent (fire) pump</u>. The vehicle will be equipped with a centrifugal pump capable of providing the performance specified herein as prescribed by NFPA 414.

3.6.1.1 <u>Agent system piping</u>. All piping, couplings, and valves and associated components that come into contact with the agent will be in accordance with NFPA 414.

3.6.1.2 <u>Tank to pump connection</u>. A check valve and shutoff valve will be provided in each tank to pump line.

3.6.1.3 <u>Piping, couplings, and valves</u>. All agent system piping will conform to NFPA 414 criteria.

3.6.1.4 <u>Overheat protection</u>. The agent system will be equipped with an overheat protection system in accordance with NFPA 414. Overheat protection is not required on vehicles utilizing a pre-mixed pressurized foam system.

3.6.1.5 <u>Pressure relief valves</u>. The agent system will be equipped with pressure relief valves in accordance with NFPA 414.

3.6.1.6 <u>Drains</u>. The agent system will be equipped with a drainage system in accordance with NFPA 414.

3.6.2 <u>Water tank</u>. The vehicle will have a water tank with a manufacturer certified minimum capacity of at least 1500 gallons.

3.6.2.1 <u>Water tank construction</u>. The water tank will be constructed of passivated stainless steel, polypropylene, or Glass Reinforced Polyester (GRP) construction. All materials used will be capable of storing water, foam concentrate, and water/AFFF solutions.

3.6.2.2 <u>Water tank overhead fill cover and drain</u>. The water tank will be equipped with a 20 inch fill tower. The tower will be designed to allow for video inspection of the water tank interior. The water tank will incorporate a drainage system in accordance with NFPA 414.

3.6.2.3 <u>Water tank overflow system and venting</u>. The water tank will incorporate a venting system to relieve pressure on the tank during fill and discharge operations at maximum flow rates. It will have an overflow system to relieve excess fluid in the event of tank overfill. Drainage from the vent and overflow system will not flow over body panels or other vehicle components and will not be in the track of any of the tires. Tank vent hoses will be of the non- collapsible type.

3.6.2.4 <u>Water tank top fill opening</u>. A top fill opening of not less than 8 inches internal diameter with a readily removable ¼-inch mesh strainer will be provided. The fill opening may be incorporated as part of the manhole cover, and will be sized to accommodate a 2½-inch fill hose.

3.6.2.5 <u>Water tank fill connections</u>. The water tank will incorporate National Hose thread connections and will be in accordance with NFPA 414. If the vehicle is fitted with the "structural fire fighting capability option," the additional requirements listed in paragraph 3.6.8 must be incorporated.

3.6.3 <u>Foam system</u>. (**NOTE**: The requirements of section 3.6.3 do not apply to premixed pressurized foam systems.)

3.6.3.1 <u>Foam concentrate tank</u>. The foam concentrate tank(s) will have a manufacturer certified working capacity sufficient for two tanks of water at the

maximum tolerance specified in NFPA 412, Standard for Evaluating Aircraft Rescue and Fire-Fighting Foam Equipment for 3 to 6 percent foam concentrate (i.e., 7.0-percent).

3.6.3.1.1 <u>Foam tank construction</u>. The foam tank will be constructed of passivated stainless steel, polypropylene, or GRP construction. All materials used will be capable of storing foam concentrate.

3.6.3.1.2 <u>Foam tank drain</u>. The foam tank will incorporate a drain and drain valve. The valve will be on the left side of the vehicle and controlled by a crew member standing on the ground. The drain line will have a minimum 1½-inch I.D. The foam tank drain outlet will be located so that the contents of the tank can be drained into 5-gallon cans and 55-gallon drums.

3.6.3.1.3 <u>Foam tank top fill trough</u>. The foam tank will incorporate a top fill trough mounted in the top of the tank readily accessible to at least two crew members on top of the vehicle. The top fill trough will incorporate a cover, latch, and sealed so as to prevent spillage under any operating condition. The top fill trough will be designed to allow two standard 5- gallon foam concentrate containers to be emptied simultaneously. The top fill trough neck will extend sufficiently close to the bottom of the tank to reduce foaming to a minimum during the fill operation. The top fill trough will incorporate readily removable, rigidly constructed 10 mesh stainless steel, brass or polyethylene strainers. All components in and around the top fill trough will be constructed of materials that resist all forms of deterioration that could be caused by the foam concentrate or water.

3.6.3.2 <u>Foam tank fill connections</u>. The foam tank will incorporate a 1.5 inch National Hose thread female hose connection on both sides of the vehicle to permit filling by an external transfer hose at flow rates up to 25-gpm. The connections will be provided with chained-on long handled plugs or rocker lug plugs. The top of the connections will be no higher than 48 inches above the ground and readily accessible. The fill lines will incorporate check valves and readily removable, rigidly constructed ¼inch mesh strainers. All components in the foam tank fill system will be constructed of materials that resist all forms of deterioration that could be caused by the foam concentrate or water.

3.6.3.2.1 <u>Foam tank vent and overflow system</u>. The foam tank will incorporate a vent system to relieve pressure on the tank during fill and discharge operations at maximum flow rates and an overflow system to relieve excess liquid in the event of tank overfill. Drainage from the vent and overflow system will not flow over body panels or other vehicle components and will not be in front of or behind any of the tires. Tank vent hoses will be of the non-collapsible type.

3.6.3.3 <u>Foam transfer pump</u>. A foam transfer pump will be provided and mounted in a compartment on the vehicle. The pump will be capable of transferring and drawing foam liquid concentrate at adjustable flow rates up to 25-gpm directly through the pump and loading connections (see 3.6.3.2). All materials and components that come in contact with the foam will be compatible with the foam concentrate. The pump and its plumbing will have provisions for flushing with water from the water tank. A suitable length of hose with appropriate connections will be provided for filling the foam tank from an external foam storage container.

3.6.3.4 <u>Foam flushing system</u>. The foam concentrate system will be designed in accordance with NFPA 414 so that the system can be readily flushed with clear water.

3.6.3.5 <u>Foam concentrate piping</u>. All metallic surfaces of the piping and associated components that come into contact with the foam concentrate will be of brass, bronze, or passivated stainless steel. The foam concentrate piping will be in accordance with NFPA 414.

3.6.4 <u>Foam proportioning system</u>. The vehicle will have a foam proportioning system for Aqueous Film-Forming Foam (AFFF) (whether 3- or 6-percent foam concentrate) in accordance with NFPA 414. If a fixed orifice plate system is used, a plate will be provided for each percentage foam concentrate; the additional plate will be securely mounted in a protected location on the vehicle. A fire vehicle mechanic will be able to interchange the plates using common hand tools.

3.6.5 <u>Primary vehicle turret</u>. The vehicle will be equipped with a standard roofmounted turret, high reach extendable turret, and/or high flow bumper mounted turret to serve as the primary source of agent delivery, as specified below:

3.6.5.1. The vehicle will be equipped with a high reach extendable turret (capable of penetrating the second level of the New Large Aircraft (NLA) class of aircraft, in accordance with paragraph 3.6.5.2. The NLA class aircraft are equivalent to the 'Airplane Design Group VI' category, as specified in AC 150/5300-13, Airport Design.

NOTE: AC 150-5220-10 allows one vehicle equipped with a high reach for an Index B-E airport at each airport station.

3.6.5.2. High reach extendable turret (HRET). The high reach extendable turret must be in accordance with NFPA 414 and will have the vertical and horizontal reach necessary to service the highest placed engine of the aircraft being serviced. It will have a non-air-aspirating, constant flow, variable stream nozzle with dual flow rates for foam or water rated as specified in NFPA 414. The discharge pattern will be infinitely variable from straight stream to fully dispersed. The type of nozzle or turret drain will be per the manufacturer's recommendation. The HRET will be controlled by one or two joysticks, each with a pistol grip handle, positioned for use by the driver and the crew member seated to the right of the driver (the turret operator). The cab design will provide clear visibility of the turret to both the driver and the turret operator with the turret in any position.

3.6.5.2.1 Video camera and monitor. The HRET will be equipped with a remote video camera and a cab mounted monitor. The system will be a complete video system consisting of a single color camera equipped with auto-focus and a cab controlled zoom. The camera/lens assembly will be protected from the heat of the fire and from the same climatic extremes as the truck. A color video monitor with a minimum dimension of 10 inches (measured diagonally) will be positioned in the cab within view

of both the driver's and the turret operator's seated positions. One monitor may be provided for both the FLIR (see 3.4.5) and the camera with a switch to change between the FLIR and the camera.

3.6.5.2.2 Aircraft skin penetrator. The HRET will be equipped with an aircraft skin penetrator and agent application tool. The skin penetrator will be a minimum of 20 inches long, installed at the tip of the HRET, and connected to the water/AFFF agent discharge line. Agent application through the skin penetrator will be controlled from the cab. NOTE: If a high reach extendable turret is specified by the purchaser, a skin penetrating nozzle must be provided. The penetrating nozzle must be movable to allow for proper alignment of the penetrator to the aircraft fuselage for piercing operations. It must be capable of the minimum water/flow rate and pattern requirements of NFPA 414, Tables 4.1.1(c) and 4.1.1(d).

3.6.6 <u>Bumper turret</u>. The vehicle will be equipped with a joystick controlled, constant flow, non-air-aspirating, variable stream type: low angle high volume dual rate (minimum 375/750 GPM) bumper turret. The bumper turret will be capable of discharging at a minimum flow rates of foam or water as specified by the user, with a pattern infinitely variable from straight stream to fully dispersed. The bumper turret will be capable of automatic oscillation, with the range of oscillation adjustable up to 90° each side of center (left and right) with vertical travel capabilities of +45°/-20° meeting section 4.20.2 in NFPA 414.

3.6.7 <u>Preconnected handline(s)</u>. Two 200 foot, 1<sup>3</sup>/<sub>4</sub>-inch pre-connected woven jacket handline(s), with a 1<sup>1</sup>/<sub>2</sub>-inch control valve and a pistol grip nozzle, will be located on (or accessible from) each side of the vehicle. A safety system will be provided to prevent charging of the hose until the hose has been fully deployed. The handline(s) and nozzle(s) will be in accordance with NFPA 414, and will allow for a minimum of 95 gpm at 100 psi nozzle pressure. A control for charging each handline will be provided for operation by both the driver and the turret operator.

3.6.7.1 In addition, the vehicle will be equipped with the following handline: 100 feet of twinned 1-inch dry chemical / foam-water hose on a reel.

3.6.8. <u>Structural fire fighting capability</u>. The vehicle will be equipped with an agent system structural control panel, on the left side of the vehicle, operable while standing on the ground. Structural panel activation will be interlocked to operate only with the vehicle parking brakes set and the transmission in neutral position. Controls and instruments will be grouped by function. The control panel will be hinged or accessible from the rear for maintenance. Instruments will be lighted for night operation.

3.6.8.1 The structural panel will include, as a minimum, the following:

- a. Panel activation switch, including the panel lights.
- b. Engine tachometer.
- c. Engine oil pressure gauge with low pressure warning light.

- d. Engine coolant temperature gauge with high temperature warning light.
- e. A liquid filled gauge, or digital indicator for pump suction, -30 inches Hg vacuum to 600 psi.
- f. A liquid filled gauge, or digital indicator for pump pressure, 0 to 600 psi.
- g. An adjustable pump pressure using either an electronic pressure governor or manual control with a relief valve will be provided.
- h. Foam or water selection.
- i. Water and foam tank liquid level indicators, located adjacent to the water and foam tank fills.
- 3.6.8.2 The structural fire fighting capability will also require installation of the following items:
  - a. A priming pump and control (for drafting using the large intake connection).
  - b. Water tank isolation valve.
  - c. Discharge connections. Two 2½-inch discharge connections with male National Hose threads will be provided. One 2½-inch discharge will be provided on each side of the vehicle. Each connection will be equipped with a cap, a quarter-turn control valve, a bleeder valve, and a pressure gauge. Each connection will be rated at 250-gpm minimum.
  - d. Intake connections. The vehicle will be equipped with one valved 4½inch intake connection on the left side. The vehicle will be equipped with two valved 2½-inch intake connections one on each side of the vehicle, with one being adjacent to the 4½-inch intake connection with both having either a 30° or 45° turn-down fitting. The 4½-inch intake connection will have male National Hose threads, a quarter-turn control valve, a bleeder valve, a strainer, and a cap. The 2½-inch intake connection will have rocker lug female National Hose threads, a quarterturn control valve, a bleeder valve, a strainer, and a plug. The vehicle will be capable of filling its water tank by pumping from a draft, a hydrant, or a nurse truck through either of the intake connections without the use of a hose from a discharge connection to a tank fill connection.

3.6.9 <u>Primary turret discharge nozzle</u>. The vehicle will be equipped with a complementary agent discharge mounted parallel to the AFFF solution discharge on the primary turret mounted on the front bumper.

3.7 <u>Dry chemical agent system</u>. The vehicle will be equipped with a 450 lb minimum capacity potassium bicarbonate dry chemical auxiliary agent system. The propellant gas cylinder will be replaceable within fifteen minutes by two crew members standing on the ground and be equipped with a cylinder replacement hoisting system. The propellant gas cylinder will be secured to withstand off-road operations. A pressure indicator will be visible to any person opening the tank fill cap. Blow-down piping will be directed beneath the vehicle. The dry chemical agent tank will include lifting rings and will have a nameplate indicating, as a minimum, the following:

- a. Extinguishing agent.
- b. Capacity.
- c. Weight full.
- d. Weight empty.
- e. Operating pressure.
- f. Hydrostatic test date.
- g. Type of agent required for re-servicing.

3.7.1 Not applicable.

3.7.2 <u>Dry chemical hose reel</u>. A hose reel, equipped with at least 100 feet of dry chemical hose, will be mounted in a compartment. Handline agent and purge controls will be mounted in or adjacent to the compartment. All electrical components will be sealed against entry of water. The hose reel will have both electric and manual rewind provisions. The manual rewind handle will be bracket mounted and stored in the compartment. A quick acting control will be provided to activate the handline from the cab of the vehicle.

3.8 Not applicable.

3.9 <u>Electrical systems and warning devices</u>. The vehicle will have a 12-volt or 24-volt electrical and starting system in accordance with NFPA 414.

3.9.1 <u>Alternator</u>. An appropriate charging system, in accordance with NFPA 414, will be provided. The minimum continuous electrical load will include operation of the air conditioning system.

3.9.2 <u>Batteries</u>. Batteries will be of the maintenance-free type; addition of water will not be required during normal service life. The battery cover and vent system will be designed to prevent electrolyte loss during service and to keep the top of the battery free from electrolyte.

3.9.2.1 <u>Battery compartment</u>. The batteries will be enclosed in a weatherproof enclosure, cover, or compartment and be readily accessible.

3.9.3 <u>Battery charger or conditioner.</u> The vehicle will have a DC taper type battery charger or an automatic battery conditioner, or voltage monitoring system, providing

a minimum 12 amp output. The charger/conditioner will be permanently mounted on the vehicle in a properly ventilated, accessible location. The charger/conditioner will be powered from the electrical shoreline receptacle (see 3.10.1). A charging indicator will be installed next to the receptacle. When a battery conditioner is provided, the conditioner will monitor the battery state of charge and, as necessary, automatically charge or maintain the batteries without gassing, depleting fluid level, overheating, or overcharging. A slave receptacle will be provided at the rear or on either side of the vehicle cab. Battery jump studs may be installed on the exterior of the battery box in lieu of a slave receptacle.

3.9.4 <u>Electromagnetic interference</u>. The vehicle electrical system will be in accordance with SAE J551-2 for electromagnetic interference.

## 3.9.5 <u>Work lighting</u>.

3.9.5.1 <u>Cab interior lights</u>. Cab interior light levels will be sufficient for reading maps or manuals. At least one red and one white cab interior dome light will be provided.

3.9.5.2 <u>Compartment lights</u>. White lighting sufficient to provide an average minimum illumination of 1.0 footcandle will be provided in each compartment greater than 4.0 cubic feet and having an opening greater than 144 square inches. Where a shelf is provided, this illumination will be provided both above and below the shelf. All compartments will be provided with weatherproof lights that are switched to automatically illuminate when compartment doors are opened and the vehicle master switch is in the 'on' position. Light switches will be of the magnetic (non-mechanical) type.

3.9.5.3 <u>Ladder, step, walkway, and area lights</u>. Non-glare white or amber lighting will be provided at ladders and access steps where personnel work or climb during night operations. In addition, ground lighting will be provided. Ground lights will be activated when the parking brake is set in accordance with AC 150/5220-10, Guide Specification for Aircraft Rescue and Fire Fighting (ARFF) Vehicles. These area lights will be controlled with three-way switches on the cab instrument panel and near the light sources. The switch located in the cab will be a master switch and must be turned on before auxiliary switches near the light sources are operational.

3.9.5.4 <u>Spot/Floodlights</u>. Two spot/floodlights will be attached at the end of the primary turret or at the end of the HRET assembly. The lights will illuminate the area covered by the turret. Both lights will be controlled from switches in the cab. LED lights will be used.

3.9.5.5 <u>Flood Lights</u>. Two telescoping floodlights will be provided. One light will be mounted on the left and right sides of the vehicle. 250W LED lights will be used. Both lights will be mounted on extension tubes and controlled from switches in the cab and manually raised. To prevent these lights from accidental damage, the cab will be equipped with a visual warning signal to alert the driver if the lights are inadvertently left in the "up" position.

3.9.5.6 <u>Scene Lights</u>. A total of six high mounted floodlights will be provided to illuminate the work areas around the vehicle. Two lights will be mounted on the front and two will be mounted on each side of the vehicle. The lights will be powered by the vehicle alternator driven system or auxiliary generator, and the lights in the front will be controlled from switches in the cab. LED lights will be used.

## 3.9.6 <u>Audible warning devices</u>.

3.9.6.1 <u>Siren</u>. The vehicle will be equipped with an electronic siren system. The amplifier unit will include volume control and selection of "Radio," "PA," "Manual," "Yelp," "Wail," and "Hi-Lo" (European) modes, and a magnetic noise canceling microphone. The amplifier, microphone, and controls will be within reach of the driver and the turret operator. Siren activating foot switches will be located in front of the driver and the turret operator. The siren speaker will be rated at 100 watts minimum and will be located in a guarded position as low and as far forward on the vehicle as practical.

3.9.6.2 <u>Horn</u>. Dual forward facing air horns will be installed in protected locations near the front of the vehicle. Air horn activating foot switches will be located in front of the driver and the turret operator.

3.9.7 <u>Emergency warning lights</u>. All emergency warning lights must meet the requirements of AC 150/5210-5. Where applicable, LED lights will be used as the primary light type. Lighting units will be installed on the top front, sides, and rear of the vehicle to provide 360° visibility. A switch will be provided on the instrument panel to control all of the top, side, front and rear emergency warning lights. A switch will also be provided on the instrument panel to disable all lower emergency warning lights when desired. All lighting systems will meet NFPA 414 emergency lighting criteria.

3.9.7.1 <u>Emergency warning light color</u>. All emergency warning lights will meet the requirements of AC 150/5210-5.

3.9.7.2 <u>Headlight flashing system</u>. A high beam, alternating/flashing, headlight system will be provided. The headlight flasher will be separately switched from the warning light panel. All emergency warning lights will meet the requirements of AC 150/5210-5.

3.9.8 <u>Radio circuit</u>. The vehicle will have three separate 30 amp circuits with breakers and connections provided in a space adjacent to the driver and turret operator for installation of radios and other communications equipment after the vehicle has been delivered. To facilitate the installation of the communications equipment the manufacturer will provide three antennas pre-installed on top of the cab. *Radios are an airport responsibility and not part of this specification.* 

3.9.9 <u>Power receptacles</u>.

3.9.9.1 <u>Primary power receptacles</u>. The vehicle will have two duplex 15-amp 110-volt power receptacles, one installed adjacent to the cab door on each side

of the vehicle. Each duplex receptacle will include one straight blade and one twistlock connection. These outlets will be powered by the generator.

3.9.9.2 <u>Auxiliary power receptacles</u>. The vehicle will have 2-12-volt auxiliary power receptacles mounted adjacent to the driver and crew member positions, preferably in the instrument panel.

3.9.9.3 <u>Cable reel</u>. The vehicle will be equipped with an electrical cable reel, located within a compartment. The reel will be equipped with 200 feet of 20 amp, 600 volt, 90°C insulated electrical cable. The electrical cable will be equipped with a rubber ball stop to prevent cable pull through during rewinding operations. A four-way roller guide will be provided on the cable reel to prevent chafing of cable insulation. The cable reel will have an electric rewind motor with provisions for manual rewind in the event of motor failure; the manual rewind handle will be securely stored near the cable reel. A portable weatherproof duplex outlet box, with built-in circuit breakers and twist-lock receptacles, will be provided for on the cable end. The cable reel will be powered by the auxiliary generator.

- 3.9.10 <u>Auxiliary generator</u>. A minimum 10 kilowatt (kW) (continuous rating), 120/240volt, 60 hertz, diesel, hydraulic, or split shaft Power Takeoff (PTO)-driven generator will be provided.
- 3.10 Line voltage electrical system.

3.10.1 <u>Electrical shoreline connection</u>. The battery charger/conditioner will be powered from a covered, polarized, insulated, labeled, recessed (flush mounted), male, 110 volt AC auto-eject receptacle. The connection will be located on the exterior of the vehicle at the rear or on either side of the cab. A weatherproof charge meter will be installed next to the receptacle. A 15 amp rated, 110-120 volt, AC straight blade (non twist-lock) connector will be provided.

## 3.11 <u>Air systems</u>.

3.11.1 <u>Air hose reel</u>. An air hose reel will be provided in an enclosed compartment on the vehicle. The hose reel will be equipped with 200 feet of 3/8-inch I.D. hoseline. A 3/8 inch National Pipe Taper (NPT) fitting and female style quick disconnect will be connected to the end of the hoseline. A four-way roller guide will be provided for the hose reel to prevent hose chafing and kinking. The hoseline will be equipped with a rubber ball stop to prevent hose pull through on roller guides during rewinding operations. The hose reel will have an electric rewind motor and provisions for manual rewind in the event of motor failure; the manual rewind handle will be securely stored near the hose reel. A pressure protected air supply from the chassis air system will be connected to the hose reel. The air supply lines will be routed with minimum bends and located or guarded from damage from the carried equipment.

3.12 <u>Quality of Workmanship</u>. The vehicle, including all parts and accessories, will be fabricated in a thoroughly workmanlike manner. Particular attention will be given

to freedom from blemishes, burrs, defects, and sharp edges; accuracy of dimensions, radii of fillets, and marking of parts and assemblies; thoroughness of welding, brazing, soldering, riveting, and painting; alignment of parts; tightness of fasteners; et cetera. The vehicle will be thoroughly cleaned of all foreign matter.

# 4. <u>REGULATORY REQUIREMENTS</u>.

4.1 <u>Recoverable Materials</u>. The contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with Title 48: Federal Acquisition Regulations System, Part 2823—Environment, Conservation, Occupational Safety, and Drug-free Workplace, Subpart 2823.4 Use of Recovered Material, 403 Policy and 404 Procedures.

4.2 <u>Green Procurement Program</u>. Green Procurement Program (GPP) is a mandatory federal acquisition program that focuses on the purchase and use of environmentally preferable products and services. GPP requirements apply to all acquisitions using appropriated funds, including services and new requirements. FAR 23.404(b) applies and states the GPP requires 100% of EPA designated product purchase that are included in the Comprehensive Procurement Guidelines list that contains recovered materials, unless the item cannot be acquired:

- a. competitively within a reasonable timeframe;
- b. meet appropriate performance standards, or
- c. at a reasonable price.

The prime contractor is responsible for ensuring that all subcontractors comply with this requirement. Information on the GPP can be found at: http://www.dot.gov/ost/m60/DOT\_policy\_letters/apl8\_04.pdf or FAR 23.404(b): http://www.acquisition.gov/far/current/html/Subpart%2023\_4.html.

# 5. <u>PRODUCT CONFORMANCE PROVISIONS</u>.

5.1 <u>Classification of inspections</u>. The inspection requirements specified herein are classified as follows:

- a. Performance inspection (see 5.2).
- b. Conformance inspection (see 5.3).

5.2 <u>Performance inspection</u>. The vehicle will be subjected to the examinations and tests described in 5.6.3.1 through 5.6.3.5 (if applicable). The contractor will provide or arrange for all test equipment, personnel, schedule, and facilities.

5.3 <u>Conformance inspection</u>. The vehicle will be subjected to the examinations and tests described in 5.6.3.1 through 5.6.3.5 (if applicable). The contractor will provide or arrange for all test equipment, personnel, and facilities.

5.4 <u>Product conformance</u>. The products provided will meet the performance

characteristics of this PS, conform to the producer's own drawings, specifications, standards, and quality assurance practices, and be the same product offered for sale in the commercial marketplace. The purchaser reserves the right to require proof of such conformance.

5.5 <u>Technical proposal</u>. The offeror/contractor will provide an itemized technical proposal that describes how the proposed model complies with each characteristic of this PS; a paragraph by paragraph response to the characteristics section of this PS will be provided. The offeror/contractor will provide two copies of their commercial descriptive catalogs with their offer as supporting reference to the itemized technical proposal. The offeror/contractor will identify all modifications made to their commercial model in order to comply with the requirements herein. The vehicle furnished will comply with the "commercial item" definition of FAR 2.101 as of the date of award. The purchaser reserves the right to require the offeror/contractor to prove that their product complies with the referenced commerciality requirements and each conformance/performance characteristics of this PS.

## 5.6 <u>Inspection requirements</u>.

5.6.1 <u>General inspection requirements</u>. Apparatus used in conjunction with the inspections specified herein will be laboratory precision type, calibrated at proper intervals to ensure laboratory accuracy.

5.6.2 <u>Test rejection criteria</u>. Throughout all tests specified herein, the vehicle will be closely observed for the following conditions, which will be cause for rejection:

- a. Failure to conform to design or performance requirements specified herein or in the contractor's technical proposal.
- b. Any spillage or leakage of any liquid, including fuel, coolant, lubricant, or hydraulic fluid, under any condition, except as allowed herein.
- c. Structural failure of any component, including permanent deformation, or evidence of impending failure.
- d. Evidence of excessive wear.
- e. Interference between the vehicle components or between the vehicle, the ground, and all required obstacles, with the exception of normal contact by the tires.
- f. Misalignment of components.
- g. Evidence of undesirable roadability characteristics, including instability in handling during cornering, braking, and while traversing all required terrain.
- h. Conditions that present a safety hazard to personnel during operation, servicing, or maintenance.
- i. Overheating of the engine, transmission, or any other vehicle component.
- j. Evidence of corrosion.
- k. Failure of the fire fighting system and sub-systems.

## 5.6.3 Detailed inspection requirements.

5.6.3.1 Examination of product. All component manufacturers' certifications, as well as the prototype and production/operational vehicle testing outlined in Table 1, will be examined to verify compliance with the requirements herein. Attention will be given to materials, workmanship, dimensions, surface finishes, protective coatings and sealants and their application, welding, fastening, and markings. Proper operation of vehicle functions will be verified as defined by NFPA 414, Acceptance Criteria chapter. A copy of the vehicle manufacturer's certifications will be provided with each vehicle in accordance with NFPA 414. The airport may accept a manufacturer third party certification any/all prototype and or for production/operational vehicle testing performed prior to delivery which proves that the vehicle meets the performance parameters of NFPA 414.

paragraph       Production Vehicle Operational Tests (NFPA 414 - Section 6.4)       (6.4.1)     Vehicle Testing, Side Slope       (6.4.2)     Weight / Weight Distribution       (6.4.3)     Acceleration. NOTE: With the modification that the instrumentation must be a GPS-based electronic data collection       (6.4.4)     Top Speed       (6.4.5)     Brake Operational Test       (6.4.6)     Air System / Air Compressor Test       (6.4.7)     Agent Discharge Pumping Test       (6.4.8)     Dual Pumping System Test (As Applicable)       (6.4.7)     Agent Discharge Pumping Test       (6.4.8)     Dual Pumping System Test (As Applicable)       (6.4.10)     Hydrostatic Pressure Test       (6.4.11)     Foam Concentration Test       (6.4.12)     Primary Turret Flow Rate Test       (6.4.13)     Piercing/Penetration Nozzle Testing (As Applicable)       Prototype Vehicle Tests (NFPA 414 - Section 6.3)     (6.3.1)       (6.3.2)     Cornering Stability. NOTE: With the modification that the evasive maneuver / double-lane chance test must be conducted at 35       (6.3.3)     Vehicle Dimensions       (6.3.4)     Driver Vision Measurement       (6.3.5)     Pump and Roll on a 40 Pe	NFPA 414	Test
(6.4.1)   Vehicle Testing, Side Slope     (6.4.2)   Weight / Weight Distribution     (6.4.3)   Acceleration. NOTE: With the modification that the instrumentation must be a GPS-based electronic data collection     (6.4.4)   Top Speed     (6.4.5)   Brake Operational Test     (6.4.6)   Air System / Air Compressor Test     (6.4.7)   Agent Discharge Pumping Test     (6.4.8)   Dual Pumping System Test (As Applicable)     (6.4.7)   Agent Discharge Pumping Test     (6.4.8)   Dual Pumping System Test (As Applicable)     (6.4.7)   Hydrostatic Pressure Test     (6.4.10)   Hydrostatic Pressure Test     (6.4.11)   Foam Concentration Test     (6.4.12)   Primary Turret Flow Rate Test     (6.4.13)   Piercing/Penetration Nozzle Testing (As Applicable)     Prototype Vehicle Tests (NFPA 414 – Section 6.3)   (6.3.1)     (6.3.1)   Rated Water and Foam Tank Capacity Test     (6.3.2)   Cornering Stability. NOTE: With the modification that the evasive maneuver / double-lane change test must be conducted at 35     (6.3.3)   Vehicle Dimensions     (6.3.4)   Driver Vision Measurement     (6.3.5)   Pump and Roll on a 40 Percent Grade		
(6.4.2)   Weight / Weight Distribution     (6.4.3)   Acceleration. NOTE: With the modification that the instrumentation must be a GPS-based electronic data collection     (6.4.4)   Top Speed     (6.4.5)   Brake Operational Test     (6.4.6)   Air System / Air Compressor Test     (6.4.7)   Agent Discharge Pumping Test     (6.4.8)   Dual Pumping System Test (As Applicable)     (6.4.9)   Pump and Maneuver Test     (6.4.10)   Hydrostatic Pressure Test     (6.4.11)   Foam Concentration Test     (6.4.12)   Primary Turret Flow Rate Test     (6.4.13)   Piercing/Penetration Nozzle Testing (As Applicable)     Prototype Vehicle Tests (NFPA 414 - Section 6.3)   (6.3.1)     (6.3.1)   Rated Water and Foam Tank Capacity Test     (6.3.2)   Cornering Stability. NOTE: With the modification that the evasive maneuver / double-lane chanae test must be conducted at 35     (6.3.3)   Vehicle Dimensions     (6.3.4)   Driver Vision Measurement     (6.3.5)   Pump and Roll on a 40 Percent Grade     (6.3.6)   Electrical Charging System     (6.3.7)   Radio Suppression     (6.3.8)   Gradability Test     (6.3.9)	Production V	
(6.4.3)   Acceleration. NOTE: With the modification that the instrumentation must be a GPS-based electronic data collection     (6.4.4)   Top Speed     (6.4.5)   Brake Operational Test     (6.4.6)   Air System / Air Compressor Test     (6.4.7)   Agent Discharge Pumping Test     (6.4.8)   Dual Pumping System Test (As Applicable)     (6.4.9)   Pump and Maneuver Test     (6.4.10)   Hydrostatic Pressure Test     (6.4.11)   Foam Concentration Test     (6.4.12)   Primary Turret Flow Rate Test     (6.4.13)   Piercing/Penetration Nozzle Testing (As Applicable)     Prototype Vehicle Tests (NFPA 414 - Section 6.3)   (6.3.1)     (6.3.2)   Cornering Stability. NOTE: With the modification that the evasive maneuver / double-lane change test must be conducted at 35     (6.3.3)   Vehicle Dimensions     (6.3.4)   Driver Vision Measurement     (6.3.5)   Pump and Roll on a 40 Percent Grade     (6.3.6)   Electrical Charging System     (6.3.7)   Radio Suppression     (6.3.8)   Gradability Test     (6.3.9)   Body and Chassis Flexibility Test     (6.3.10)   Service/Emergency Brake Test     (6.3.12)   Stee	(6.4.1)	Vehicle Testing, Side Slope
instrumentation must be a GPS-based electronic data collection(6.4.4)Top Speed(6.4.5)Brake Operational Test(6.4.6)Air System / Air Compressor Test(6.4.7)Agent Discharge Pumping Test(6.4.8)Dual Pumping System Test (As Applicable)(6.4.9)Pump and Maneuver Test(6.4.10)Hydrostatic Pressure Test(6.4.11)Foam Concentration Test(6.4.12)Primary Turret Flow Rate Test(6.4.13)Piercing/Penetration Nozzle Testing (As Applicable)Prototype Vehicle Tests (NFPA 414 - Section 6.3)(6.3.1)Rated Water and Foam Tank Capacity Test(6.3.2)Cornering Stability. NOTE: With the modification that the evasive maneuver / double-lane change test must be conducted at 35(6.3.3)Vehicle Dimensions(6.3.4)Driver Vision Measurement(6.3.5)Pump and Roll on a 40 Percent Grade(6.3.7)Radio Suppression(6.3.7)Radio Suppression(6.3.7)Radio Suppression(6.3.10)Service/Emergency Brake Test(6.3.11)Service/Emergency Brake Grade Holding Test(6.3.12)Steering Control Test(6.3.13)Vehicle Clearance Circle Test(6.3.14)Agent Pump(s)/Tank Vent Discharge Test(6.3.15)Water Tank Fill and Overflow Test		Weight / Weight Distribution
(6.4.4)Top Speed(6.4.5)Brake Operational Test(6.4.6)Air System / Air Compressor Test(6.4.7)Agent Discharge Pumping Test(6.4.8)Dual Pumping System Test (As Applicable)(6.4.9)Pump and Maneuver Test(6.4.10)Hydrostatic Pressure Test(6.4.11)Foam Concentration Test(6.4.12)Primary Turret Flow Rate Test(6.4.13)Piercing/Penetration Nozzle Testing (As Applicable)Prototype Vehicle Tests (NFPA 414 - Section 6.3)(6.3.1)Rated Water and Foam Tank Capacity Test(6.3.2)Cornering Stability. NOTE: With the modification that the evasive maneuver / double-lane change test must be conducted at 35(6.3.3)Vehicle Dimensions(6.3.4)Driver Vision Measurement(6.3.5)Pump and Roll on a 40 Percent Grade(6.3.7)Radio Suppression(6.3.8)Gradability Test(6.3.10)Service/Emergency Brake Test(6.3.12)Steering Control Test(6.3.13)Vehicle Clearance Circle Test(6.3.14)Agent Pump(s)/Tank Vent Discharge Test(6.3.15)Water Tank Fill and Overflow Test	(6.4.3)	Acceleration. NOTE: With the modification that the
(6.4.5)Brake Operational Test(6.4.6)Air System / Air Compressor Test(6.4.7)Agent Discharge Pumping Test(6.4.8)Dual Pumping System Test (As Applicable)(6.4.9)Pump and Maneuver Test(6.4.10)Hydrostatic Pressure Test(6.4.11)Foam Concentration Test(6.4.12)Primary Turret Flow Rate Test(6.4.13)Piercing/Penetration Nozzle Testing (As Applicable)Prototype Vehicle Tests (NFPA 414 - Section 6.3)(6.3.1)Rated Water and Foam Tank Capacity Test(6.3.2)Cornering Stability. NOTE: With the modification that the evasive maneuver / double-lane change test must be conducted at 35(6.3.3)Vehicle Dimensions(6.3.4)Driver Vision Measurement(6.3.5)Pump and Roll on a 40 Percent Grade(6.3.7)Radio Suppression(6.3.8)Gradability Test(6.3.10)Service/Emergency Brake Test(6.3.11)Service/Emergency Brake Grade Holding Test(6.3.12)Steering Control Test(6.3.13)Vehicle Clearance Circle Test(6.3.14)Agent Pump(s)/Tank Vent Discharge Test(6.3.15)Water Tank Fill and Overflow Test		instrumentation must be a GPS-based electronic data collection
(6.4.6)Air System / Air Compressor Test(6.4.7)Agent Discharge Pumping Test(6.4.8)Dual Pumping System Test (As Applicable)(6.4.9)Pump and Maneuver Test(6.4.10)Hydrostatic Pressure Test(6.4.11)Foam Concentration Test(6.4.12)Primary Turret Flow Rate Test(6.4.13)Piercing/Penetration Nozzle Testing (As Applicable)Prototype Vehicle Tests (NFPA 414 - Section 6.3)(6.3.1)Rated Water and Foam Tank Capacity Test(6.3.2)Cornering Stability. NOTE: With the modification that the evasive maneuver / double-lane change test must be conducted at 35(6.3.3)Vehicle Dimensions(6.3.4)Driver Vision Measurement(6.3.5)Pump and Roll on a 40 Percent Grade(6.3.7)Radio Suppression(6.3.8)Gradability Test(6.3.10)Service/Emergency Brake Test(6.3.11)Service/Emergency Brake Grade Holding Test(6.3.12)Steering Control Test(6.3.13)Vehicle Clearance Circle Test(6.3.14)Agent Pump(s)/Tank Vent Discharge Test(6.3.15)Water Tank Fill and Overflow Test		
(6.4.7)Agent Discharge Pumping Test(6.4.8)Dual Pumping System Test (As Applicable)(6.4.9)Pump and Maneuver Test(6.4.10)Hydrostatic Pressure Test(6.4.11)Foam Concentration Test(6.4.12)Primary Turret Flow Rate Test(6.4.13)Piercing/Penetration Nozzle Testing (As Applicable)Prototype Vehicle Tests (NFPA 414 - Section 6.3)(6.3.1)Rated Water and Foam Tank Capacity Test(6.3.2)Cornering Stability. NOTE: With the modification that the evasive maneuver / double-lane change test must be conducted at 35(6.3.3)Vehicle Dimensions(6.3.4)Driver Vision Measurement(6.3.5)Pump and Roll on a 40 Percent Grade(6.3.7)Radio Suppression(6.3.8)Gradability Test(6.3.10)Service/Emergency Brake Test(6.3.11)Service/Emergency Brake Grade Holding Test(6.3.12)Steering Control Test(6.3.13)Vehicle Clearance Circle Test(6.3.14)Agent Pump(s)/Tank Vent Discharge Test(6.3.15)Water Tank Fill and Overflow Test	(6.4.5)	Brake Operational Test
(6.4.8)Dual Pumping System Test (As Applicable)(6.4.9)Pump and Maneuver Test(6.4.10)Hydrostatic Pressure Test(6.4.11)Foam Concentration Test(6.4.12)Primary Turret Flow Rate Test(6.4.13)Piercing/Penetration Nozzle Testing (As Applicable) <b>Prototype Vehicle Tests (NFPA 414 - Section 6.3)</b> (6.3.1)Rated Water and Foam Tank Capacity Test(6.3.2)Cornering Stability. NOTE: With the modification that the evasive maneuver / double-lane change test must be conducted at 35(6.3.3)Vehicle Dimensions(6.3.4)Driver Vision Measurement(6.3.5)Pump and Roll on a 40 Percent Grade(6.3.7)Radio Suppression(6.3.8)Gradability Test(6.3.10)Service/Emergency Brake Test(6.3.11)Service/Emergency Brake Grade Holding Test(6.3.13)Vehicle Clearance Circle Test(6.3.14)Agent Pump(s)/Tank Vent Discharge Test(6.3.15)Water Tank Fill and Overflow Test	(6.4.6)	Air System / Air Compressor Test
(6.4.9)Pump and Maneuver Test(6.4.10)Hydrostatic Pressure Test(6.4.11)Foam Concentration Test(6.4.12)Primary Turret Flow Rate Test(6.4.13)Piercing/Penetration Nozzle Testing (As Applicable) <b>Prototype Vehicle Tests (NFPA 414 - Section 6.3)</b> (6.3.1)Rated Water and Foam Tank Capacity Test(6.3.2)Cornering Stability. NOTE: With the modification that the evasive maneuver / double-lane change test must be conducted at 35(6.3.3)Vehicle Dimensions(6.3.4)Driver Vision Measurement(6.3.5)Pump and Roll on a 40 Percent Grade(6.3.7)Radio Suppression(6.3.8)Gradability Test(6.3.10)Service/Emergency Brake Test(6.3.11)Service/Emergency Brake Grade Holding Test(6.3.12)Steering Control Test(6.3.14)Agent Pump(s)/Tank Vent Discharge Test(6.3.15)Water Tank Fill and Overflow Test	(6.4.7)	
(6.4.10)Hydrostatic Pressure Test(6.4.11)Foam Concentration Test(6.4.12)Primary Turret Flow Rate Test(6.4.13)Piercing/Penetration Nozzle Testing (As Applicable)Prototype Vehicle Tests (NFPA 414 - Section 6.3)(6.3.1)Rated Water and Foam Tank Capacity Test(6.3.2)Cornering Stability. NOTE: With the modification that the evasive maneuver / double-lane change test must be conducted at 35(6.3.3)Vehicle Dimensions(6.3.4)Driver Vision Measurement(6.3.5)Pump and Roll on a 40 Percent Grade(6.3.7)Radio Suppression(6.3.8)Gradability Test(6.3.9)Body and Chassis Flexibility Test(6.3.10)Service/Emergency Brake Grade Holding Test(6.3.11)Service/Emergency Brake Grade Holding Test(6.3.12)Steering Control Test(6.3.13)Vehicle Clearance Circle Test(6.3.14)Agent Pump(s)/Tank Vent Discharge Test(6.3.15)Water Tank Fill and Overflow Test	(6.4.8)	
(6.4.11)Foam Concentration Test(6.4.12)Primary Turret Flow Rate Test(6.4.13)Piercing/Penetration Nozzle Testing (As Applicable)Prototype Vehicle Tests (NFPA 414 - Section 6.3)(6.3.1)Rated Water and Foam Tank Capacity Test(6.3.2)Cornering Stability. NOTE: With the modification that the evasive maneuver / double-lane change test must be conducted at 35(6.3.3)Vehicle Dimensions(6.3.4)Driver Vision Measurement(6.3.5)Pump and Roll on a 40 Percent Grade(6.3.7)Radio Suppression(6.3.8)Gradability Test(6.3.9)Body and Chassis Flexibility Test(6.3.10)Service/Emergency Brake Test(6.3.11)Service/Emergency Brake Grade Holding Test(6.3.12)Steering Control Test(6.3.13)Vehicle Clearance Circle Test(6.3.14)Agent Pump(s)/Tank Vent Discharge Test(6.3.15)Water Tank Fill and Overflow Test	(6.4.9)	Pump and Maneuver Test
(6.4.12)Primary Turret Flow Rate Test(6.4.13)Piercing/Penetration Nozzle Testing (As Applicable)Prototype Vehicle Tests (NFPA 414 - Section 6.3)(6.3.1)Rated Water and Foam Tank Capacity Test(6.3.2)Cornering Stability. NOTE: With the modification that the evasive maneuver / double-lane change test must be conducted at 35(6.3.3)Vehicle Dimensions(6.3.4)Driver Vision Measurement(6.3.5)Pump and Roll on a 40 Percent Grade(6.3.6)Electrical Charging System(6.3.7)Radio Suppression(6.3.8)Gradability Test(6.3.9)Body and Chassis Flexibility Test(6.3.10)Service/Emergency Brake Grade Holding Test(6.3.11)Steering Control Test(6.3.12)Steering Control Test(6.3.13)Vehicle Clearance Circle Test(6.3.14)Agent Pump(s)/Tank Vent Discharge Test(6.3.15)Water Tank Fill and Overflow Test	(6.4.10)	Hydrostatic Pressure Test
(6.4.13)Piercing/Penetration Nozzle Testing (As Applicable)Prototype Vehicle Tests (NFPA 414 - Section 6.3)(6.3.1)Rated Water and Foam Tank Capacity Test(6.3.2)Cornering Stability. NOTE: With the modification that the evasive maneuver / double-lane change test must be conducted at 35(6.3.3)Vehicle Dimensions(6.3.4)Driver Vision Measurement(6.3.5)Pump and Roll on a 40 Percent Grade(6.3.6)Electrical Charging System(6.3.7)Radio Suppression(6.3.8)Gradability Test(6.3.9)Body and Chassis Flexibility Test(6.3.10)Service/Emergency Brake Test(6.3.11)Service/Emergency Brake Grade Holding Test(6.3.12)Steering Control Test(6.3.13)Vehicle Clearance Circle Test(6.3.14)Agent Pump(s)/Tank Vent Discharge Test(6.3.15)Water Tank Fill and Overflow Test	(6.4.11)	Foam Concentration Test
Prototype Vehicle Tests (NFPA 414 – Section 6.3)(6.3.1)Rated Water and Foam Tank Capacity Test(6.3.2)Cornering Stability. NOTE: With the modification that the evasive maneuver / double-lane change test must be conducted at 35(6.3.3)Vehicle Dimensions(6.3.4)Driver Vision Measurement(6.3.5)Pump and Roll on a 40 Percent Grade(6.3.6)Electrical Charging System(6.3.7)Radio Suppression(6.3.8)Gradability Test(6.3.9)Body and Chassis Flexibility Test(6.3.10)Service/Emergency Brake Test(6.3.11)Steering Control Test(6.3.13)Vehicle Clearance Circle Test(6.3.14)Agent Pump(s)/Tank Vent Discharge Test(6.3.15)Water Tank Fill and Overflow Test	(6.4.12)	Primary Turret Flow Rate Test
(6.3.1)Rated Water and Foam Tank Capacity Test(6.3.2)Cornering Stability. NOTE: With the modification that the evasive maneuver / double-lane change test must be conducted at 35(6.3.3)Vehicle Dimensions(6.3.4)Driver Vision Measurement(6.3.5)Pump and Roll on a 40 Percent Grade(6.3.6)Electrical Charging System(6.3.7)Radio Suppression(6.3.8)Gradability Test(6.3.9)Body and Chassis Flexibility Test(6.3.10)Service/Emergency Brake Test(6.3.11)Service/Emergency Brake Grade Holding Test(6.3.12)Steering Control Test(6.3.13)Vehicle Clearance Circle Test(6.3.14)Agent Pump(s)/Tank Vent Discharge Test(6.3.15)Water Tank Fill and Overflow Test	(6.4.13)	Piercing/Penetration Nozzle Testing (As Applicable)
(6.3.2)Cornering Stability. NOTE: With the modification that the evasive maneuver / double-lane change test must be conducted at 35(6.3.3)Vehicle Dimensions(6.3.4)Driver Vision Measurement(6.3.5)Pump and Roll on a 40 Percent Grade(6.3.6)Electrical Charging System(6.3.7)Radio Suppression(6.3.8)Gradability Test(6.3.9)Body and Chassis Flexibility Test(6.3.10)Service/Emergency Brake Test(6.3.11)Service/Emergency Brake Grade Holding Test(6.3.12)Steering Control Test(6.3.13)Vehicle Clearance Circle Test(6.3.14)Agent Pump(s)/Tank Vent Discharge Test(6.3.15)Water Tank Fill and Overflow Test	Prototype Ve	ehicle Tests (NFPA 414 – Section 6.3)
maneuver / double-lane change test must be conducted at 35(6.3.3)Vehicle Dimensions(6.3.4)Driver Vision Measurement(6.3.5)Pump and Roll on a 40 Percent Grade(6.3.6)Electrical Charging System(6.3.7)Radio Suppression(6.3.8)Gradability Test(6.3.9)Body and Chassis Flexibility Test(6.3.10)Service/Emergency Brake Test(6.3.11)Service/Emergency Brake Grade Holding Test(6.3.12)Steering Control Test(6.3.13)Vehicle Clearance Circle Test(6.3.14)Agent Pump(s)/Tank Vent Discharge Test(6.3.15)Water Tank Fill and Overflow Test	(6.3.1)	Rated Water and Foam Tank Capacity Test
(6.3.3)Vehicle Dimensions(6.3.4)Driver Vision Measurement(6.3.5)Pump and Roll on a 40 Percent Grade(6.3.6)Electrical Charging System(6.3.7)Radio Suppression(6.3.8)Gradability Test(6.3.9)Body and Chassis Flexibility Test(6.3.10)Service/Emergency Brake Test(6.3.11)Service/Emergency Brake Grade Holding Test(6.3.12)Steering Control Test(6.3.13)Vehicle Clearance Circle Test(6.3.14)Agent Pump(s)/Tank Vent Discharge Test(6.3.15)Water Tank Fill and Overflow Test	(6.3.2)	Cornering Stability. NOTE: With the modification that the evasive
(6.3.4)Driver Vision Measurement(6.3.5)Pump and Roll on a 40 Percent Grade(6.3.6)Electrical Charging System(6.3.7)Radio Suppression(6.3.8)Gradability Test(6.3.9)Body and Chassis Flexibility Test(6.3.10)Service/Emergency Brake Test(6.3.11)Service/Emergency Brake Grade Holding Test(6.3.12)Steering Control Test(6.3.13)Vehicle Clearance Circle Test(6.3.14)Agent Pump(s)/Tank Vent Discharge Test(6.3.15)Water Tank Fill and Overflow Test		maneuver / double-lane change test must be conducted at 35
(6.3.5)Pump and Roll on a 40 Percent Grade(6.3.6)Electrical Charging System(6.3.7)Radio Suppression(6.3.8)Gradability Test(6.3.9)Body and Chassis Flexibility Test(6.3.10)Service/Emergency Brake Test(6.3.11)Service/Emergency Brake Grade Holding Test(6.3.12)Steering Control Test(6.3.13)Vehicle Clearance Circle Test(6.3.14)Agent Pump(s)/Tank Vent Discharge Test(6.3.15)Water Tank Fill and Overflow Test	· · ·	Vehicle Dimensions
(6.3.6)Electrical Charging System(6.3.7)Radio Suppression(6.3.8)Gradability Test(6.3.9)Body and Chassis Flexibility Test(6.3.10)Service/Emergency Brake Test(6.3.11)Service/Emergency Brake Grade Holding Test(6.3.12)Steering Control Test(6.3.13)Vehicle Clearance Circle Test(6.3.14)Agent Pump(s)/Tank Vent Discharge Test(6.3.15)Water Tank Fill and Overflow Test	· /	
(6.3.7)Radio Suppression(6.3.8)Gradability Test(6.3.9)Body and Chassis Flexibility Test(6.3.10)Service/Emergency Brake Test(6.3.11)Service/Emergency Brake Grade Holding Test(6.3.12)Steering Control Test(6.3.13)Vehicle Clearance Circle Test(6.3.14)Agent Pump(s)/Tank Vent Discharge Test(6.3.15)Water Tank Fill and Overflow Test		
(6.3.8)Gradability Test(6.3.9)Body and Chassis Flexibility Test(6.3.10)Service/Emergency Brake Test(6.3.11)Service/Emergency Brake Grade Holding Test(6.3.12)Steering Control Test(6.3.13)Vehicle Clearance Circle Test(6.3.14)Agent Pump(s)/Tank Vent Discharge Test(6.3.15)Water Tank Fill and Overflow Test	(6.3.6)	Electrical Charging System
(6.3.9)Body and Chassis Flexibility Test(6.3.10)Service/Emergency Brake Test(6.3.11)Service/Emergency Brake Grade Holding Test(6.3.12)Steering Control Test(6.3.13)Vehicle Clearance Circle Test(6.3.14)Agent Pump(s)/Tank Vent Discharge Test(6.3.15)Water Tank Fill and Overflow Test	(6.3.7)	Radio Suppression
(6.3.10)Service/Emergency Brake Test(6.3.11)Service/Emergency Brake Grade Holding Test(6.3.12)Steering Control Test(6.3.13)Vehicle Clearance Circle Test(6.3.14)Agent Pump(s)/Tank Vent Discharge Test(6.3.15)Water Tank Fill and Overflow Test	(6.3.8)	GradabilityTest
(6.3.11)Service/Emergency Brake Grade Holding Test(6.3.12)Steering Control Test(6.3.13)Vehicle Clearance Circle Test(6.3.14)Agent Pump(s)/Tank Vent Discharge Test(6.3.15)Water Tank Fill and Overflow Test	(6.3.9)	Body and Chassis Flexibility Test
(6.3.12)Steering Control Test(6.3.13)Vehicle Clearance Circle Test(6.3.14)Agent Pump(s)/Tank Vent Discharge Test(6.3.15)Water Tank Fill and Overflow Test	(6.3.10)	Service/Emergency Brake Test
(6.3.13)Vehicle Clearance Circle Test(6.3.14)Agent Pump(s)/Tank Vent Discharge Test(6.3.15)Water Tank Fill and Overflow Test	(6.3.11)	Service/Emergency Brake Grade Holding Test
(6.3.14)Agent Pump(s)/Tank Vent Discharge Test(6.3.15)Water Tank Fill and Overflow Test	(6.3.12)	Steering Control Test
(6.3.15) Water Tank Fill and Overflow Test	(6.3.13)	
	(6.3.14)	
(6.3.16) Flushing System Test	(6.3.15)	Water Tank Fill and Overflow Test
	(6.3.16)	Flushing System Test

Table 1. Vehicle Test Data

(6.3.17)	Primary Turret Flow Rate Test
(6.3.18)	Primary Turret Pattern Test
(6.3.19)	Primary Turret Control Force Measurement
(6.3.20)	Primary Turret Articulation Test
(6.3.21)	Handline Nozzle Flow Rate Test
(6.3.22)	Handline Nozzle Pattern Test
(6.3.23)	Ground Sweep/Bumper Turret Flow Rate Test
(6.3.24)	Ground Sweep/Bumper Turret Pattern Control Test
(6.3.25)	Undertruck Nozzle Test
(6.3.26)	Foam Concentration/Foam Quality Test
(6.3.27)	Warning Siren Test
(6.3.28)	Propellant Gas
(6.3.29)	Pressure Regulation
(6.3.30)	AFFF Premix Piping and Valves
(6.3.31)	Pressurized Agent Purging and Venting
(6.3.32)	Complementary Agent Handline Flow Rate and Range
(6.3.33)	Dry Chemical Turret Flow Rate and Range
(6.3.34)	Cab Interior Noise Test

## 6. <u>PACKAGING</u>.

6.1 Preservation, packing, and marking will be as specified in the Procurement Specification, contract or delivery order.

6.2 The vehicle must be delivered with full operational quantities of lubricants, brake and hydraulic fluids, and cooling system fluid all of which must be suitable for use in the temperature range expected at the airport.

6.3 The vehicle must be delivered with one complete load of firefighting agents and propellants. One complete load is defined as all of the agents and propellants necessary for the vehicle to be fully operational. One load would include, at a minimum: one fill of a foam tank; one fill of a dry chemical tank (if applicable); one fill of a halogenated tank (if applicable); one spare nitrogen cylinder for a dry chemical system (if applicable); and one spare argon cylinder for a halogenated system (if applicable). Agents and propellants for required testing or training are not included. For the initial training period, water should be used in place of other extinguishing agents. The manufacturer may pre-ship agents and propellants to a receiving airport to reduce overall procurement costs.

6.4. The vehicle manufacturer must provide initial adjustments to the vehicle for operational readiness and mount any ancillary appliances purchased through the vehicle manufacturer as part of the vehicle.

#### 7. <u>TRAINING</u>.

7.1 Upon delivery of the vehicle to the Airport, the manufacturer must, at no additional cost, provide the services of a qualified technician for five consecutive

days (or up to 8 days for an high reach extendable turret) for training. This is considered sufficient time for the Airport to adjust shift work schedules to get maximum employee attendance to training sessions at some point during the training period. During this time, sufficient repetitive learning opportunities must be provided by the manufacturer to allow various shifts to complete the training requirements.

7.2 The technician must provide thorough instruction in the use, operation, maintenance and testing of the vehicle. This setup must include operator training for the primary operators, which will give them sufficient knowledge to train other personnel in the functional use of all fire fighting and vehicle operating systems. Prior to leaving the vehicle, the technician must review the maintenance instructions with the Airport's personnel to acquaint them with maintenance procedures as well as how to obtain support service for the vehicle.

7.3 Training must include written operating instructions, electronic training aids (videos/power point), or other graphics that depict the step-by-step operation of the vehicle. Written instructions must include materials that can be used to train subsequent new operators.

## 8. <u>REFERENCED DOCUMENTS</u>.

8.1 <u>Source of documents</u>.

8.1.1 The CFR may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington DC 20402.

Title 14, Code of Federal Regulations (CFR), Part 139, Certification of Airports (14 CFR Part 139)

Section 139.315 Aircraft Rescue and Firefighting: Index Determination.

Section 139.317 Aircraft Rescue and Firefighting: Equipment and Agents.

Section 139.319 Aircraft Rescue and Firefighting: Operational Requirements.

Title 49; Code of Federal Regulations (CFR), Part 393: Parts and Accessories Necessary for Safe Operation: Subpart C—Brakes.

Title 49; Code of Federal Regulations (CFR), Part 571, Motor Carrier Vehicle Safety Standards, Part 209, Standard No. 209; Seat Belt Assemblies

8.1.2 SAE documents may be obtained from SAE, Inc., 400 Commonwealth Drive, Warrendale PA 15096.

8.1.3 <u>National Fire Protection Association (NFPA)</u>: NFPA documents may be obtained from NFPA, Batterymarch Park, Quincy MA 02269-9101.

NFPA 412, Standard for Evaluating Aircraft Rescue and Fire-Fighting Foam Equipment (2009 Edition)

NFPA 414, Standard for Aircraft Rescue and Fire Fighting Vehicles (2007 Edition)

NFPA 1901, Standard for Automotive Fire Apparatus (2009 Edition)

8.1.4 <u>Federal Aviation Administration (FAA)</u>: FAA ACs may be obtained from the FAA website: http://www.faa.gov/regulations\_policies/advisory\_circulars/

AC 150/5220-10, Guide Specification for Aircraft Rescue and Fire Fighting (ARFF) Vehicles

AC 150/5210-5, Painting, Marking, and Lighting of Vehicles Used on an Airport

FAA Orders, Specifications, and Drawings may be obtained from: Federal Aviation Administration, ATO-W CM-NAS Documentation, Control Center, 800 Independence Avenue, SW, Washington, DC 20591. Telephone: (202) 548-5256, FAX: (202) 548-5501 and website:

http://www.faa.gov/about/office\_org/headquarters\_offices/ato/service\_units/techop s/atc\_facilities/cm/cm\_documentation/

## **Options:**

9. The City has a number of option items that may be purchased as outlined on the pricing sheets. The items that may be selected include the following listed items. All selected items will be provided as specified below:

9.1 Computer based training (CBT) program and joystick for HRET. The training package must include controls that simulate as closely as possible the actual cab environment (e.g. location of joystick, throttle, and steering wheel). The simulation software program must represent the actual maneuvering operation and controller interface of the actual operation of the elevated and high reach extendable turret of the ARFF vehicle.

9.2 Airport Professional Service (APS) Penetration Aircraft Skin Trainer (PAST) Trainer System. The APS must meet the following minimum requirements:

- a. Aluminum panels must be comparable in thickness, hardness, and curvature of the predominate type aircraft for the specific airport. Panels may be movable or replaceable to allow adjustments for different aircraft types.
- b. Panels must be located at a representative height to the predominant aircraft in use at the specific airport.
- c. Panels must be mounted on a structure (portable or stationary) that remains stable during training exercises.
- 9.3 Three under-truck nozzles with flow rates per NFPA 414.

9.4 Aircraft Rescue Fire Fighting Equipment (Reference: AC 150/5210-14B, 14 CFR Part 139.319, NFPA 403 Standard for Aircraft Rescue and Fire-Fighting Services at Airports 2014 Edition; NFPA 1981, SCBA; NFPA 1936 Standard on Powered Rescue Tools.

9.4.1 Omitted

9.4.2 Omitted

9.4.3 Omitted

9.4.4 Two Truck mounted hand held LED lanterns. E-Flood Litebox HL Streamlight

9.4.5 Two Combination Hydrant and Spanner Wrench holder sets with vehicle mounted brackets

9.4.6 One Halotran Clean Agent 15.5 lb. rated 2a:10B: C extinguisher with PAC Fastlok K5020 vehicle mounting bracket

9.4.7 One Purple K B: C 20 lb. rated 120B: C Potassium Bicarbonated Extinguisher with PAC Fastlok K5020 vehicle mounting bracket

9.4.8 One Class D Fire Extinguisher 30 lb. with PAC Fastlok K5020 vehicle mounting bracket

9.4.9 Omitted

## Warranty

10. At a minimum, the manufacturer shall provide warranties on the base vehicle and major components as follows:

The firefighting unit will be covered by a minimum of one-year warranty after delivery.

ATTACHMENT B: BID/PRICING SCHEDULE



## CITY OF CORPUS CHRISTI REVISED BID FORM PURCHASING DIVISION RFB No. 1093 Aircraft Rescue and Fire Fighting Vehicle

Date: <u>May 1, 2017</u>

Bidder: Oshkosh Airport Products, LLC

Authorized Signature:

ce President & GM

PAGE 1 OF 2

- 1. Refer to "Instructions to Bidders" and Contract Terms and Conditions before completing bid.
- 2. Quote your best price for each item.
- 3. Price is to be F.O.B. Corpus Christi International Airport, Corpus Christi, Texas with all transportation charges prepaid.
- 4. Bidder must provide a price for each and every bid item.
- 5. In submitting this bid, Bidder certifies that:
  - a. the prices in this bid have been arrived at independently, without consultation, communication, or agreement with any other Bidder or competitor, for the purpose of restricting competition with regard to prices.
  - b. Bidder is an Equal Opportunity Employer, and the Disclosure of Interest information on file with City's Purchasing office, pursuant to the Code of Ordinances, is current and true.
  - c. Bidder is current with all taxes due and company is in good standing with all applicable governmental agencies.
  - d. Bidder acknowledges receipt and review of all addenda for this RFB.

\*\*Oshkosh Airport Products, LLC acknowledges receipt of Addendum No. 1, 2 & 3\*\*

Item	Description	UNIT	QTY	<b>Unit Price</b>	<b>Total Price</b>
	Base Bid				
01	Class 4 Aircraft Rescue Firefighting Vehicle	Lump Sum	1		\$782,839.00
	Options - Add Alternates				
02	9.1 - Computer Based Training	Lump Sum	1		\$54,750.00
03	9.2 - Airport Professional Services Penetration Aircraft Skin Trainer System	Lump Sum	1		\$13,289.00
04	9.3 - Under-truck nozzles	Each	3	\$681.00	\$2,043.00
PAGE 2 OF 2

ltem	Description	UNIT	QTY	Unit Price	Total Price
0.	9.4.2 CBA Phour composite	Each		<u>\$1.529.00</u>	\$12,232.00
	Choilie for Scoll Ain Ruly				
Q7	17.4.3 - SONA face piece 41/ 3000	EQCA	204	C204.00	\$7,689.00
08	9.4.4 - Truck Mounted hand held LED lantern	Each	2	\$461.00	\$922.00
09	9.4.5 - Combination Hydrant and Spanner Wrench Holder set with vehicle mounted brackets including mounting	Each	2	\$191.00	\$382.00
10	9.4.6 - Halotron Clean Agent 15.5 Ib and mounting bracket including mounting	Each	1	\$433.00	\$433.00
11	9.4.7 - Potassium Bicarbonate Extinguisher with vehicle mounted bracket including mounting	Each	1	\$155.00	\$155.00
12	9.4.8 - Class D Fire Extinguisher with vehicle mounted bracket	Each	1	\$342.00	\$342.00
	17,117 - 1012 fb fire Resove / Cut off. Mawwith vehicle mounting Stacket including mounting	. Eoch		\$2,926.00	10 426.00

 $\pi$ 

# ATTACHMENT C: INSURANCE REQUIREMENT

Insurance is not required for this Supply Agreement.

# ATTACHMENT D:

# FEDERAL REQUIREMENTS

## FEDERAL REQUIREMENTS

## TABLE OF CONTENTS

Section No.	Title
FR-A1	Access to Records and Reports
FR-A2	Affirmative Action Requirement
FR-A3	Breach of Contract
FR-A4	Buy American Preference
FR-A5	Civil Rights - General
FR-A6	Civil Rights - Title VI Assurance
FR-A7	Clean Air and Water Pollution Control
FR-A8	Contract Workhours and Safety Standards Act Requirements
FR-A9	Copeland "Anti-Kickback" Act
FR-A10	Davis-Bacon Requirements
FR-A11	Debarment and Suspension
FR-A12	Disadvantaged Business Enterprise
FR-A13	Distracted Driving
FR-A14	Energy Conservation Requirements
FR-A15	Equal Employment Opportunity

Section No.	Title
FR-A16	Federal Fair Labor Standards Act (Federal Minimum Wage)
FR-A17	Lobbying and Influencing Federal Employees
FR-A18	Prohibition of Segregated Facilities
FR-A19	Occupational Safety and Health Act of 1970
FR-A20	Procurement of Recovered Materials
FR-A21	Right to Inventions
FR-A22	Seismic Safety
FR-A23	Termination of Contract
FR-A24	Trade Restriction Certification
FR-A25	Veteran's Preference

## END OF TABLE OF CONTENTS

#### FEDERAL REQUIREMENTS: <u>FR-A1</u>

#### ACCESS TO RECORDS AND REPORTS

The Contractor shall maintain an acceptable cost accounting system. The Contractor agrees to provide the City, the Federal Aviation Administration, and the Comptroller General of the United States, or any of their duly authorized representatives, access to any books, documents, papers, and records of the Contractor which are directly pertinent to the specific Contract for the purpose of making audit, examination, excerpts and transcriptions. The Contractor agrees to maintain all books, records and reports required under this Contract for a period of not less than three years after final payment is made and all pending matters are closed.

*Reference:* 2 CFR § 200.333, 2 CFR § 200.336 & FAA Order 5100.38

# FEDERAL REQUIREMENTS: <u>FR-A2</u>

## AFFIRMATIVE ACTION REQUIREMENT

#### BREACH OF CONTRACT

Any violation or breach of terms of this Contract on the part of the Contractor or its subcontractors may result in the suspension or termination of this Contract or such other action that may be necessary to enforce the rights of the parties of this agreement.

City will provide Contractor written notice that describes the nature of the breach and corrective actions the Contractor must undertake in order to avoid termination of the Contract. City reserves the right to withhold payments to Contractor until such time the Contractor corrects the breach or the City elects to terminate the Contract. The City's notice will identify a specific date by which the Contractor must correct the breach. City may proceed with termination of the Contract if the Contractor fails to correct the breach by deadline indicated in the City's notice.

The duties and obligations imposed by the Contract documents and the rights and remedies available thereunder are in addition to, and not a limitation of, any duties, obligations, rights and remedies otherwise imposed or available by law.

*Reference:* 2 CFR § 200 Appendix II(A)

#### **BUY AMERICAN PREFERENCE**

The Contractor agrees to comply with 49 USC § 50101, which provides that Federal funds may not be obligated unless all steel and manufactured goods used in AIP funded projects are produced in the United States, unless the FAA has issued a waiver for the product; the product is listed as an Excepted Article, Material Or Supply in Federal Acquisition Regulation subpart 25.108; or is included in the FAA Nationwide Buy American Waivers Issued list.

A bidder or offeror must complete and submit the Buy America certification included herein with their bid or offer. The City will reject as nonresponsive any bid or offer that does not include a completed Certificate of Buy American Compliance.

Reference: 49 USC § 50101

## **CIVIL RIGHTS - GENERAL**

The contractor agrees to comply with pertinent statutes, Executive Orders and such rules as are promulgated to ensure that no person shall, on the grounds of race, creed, color, national origin, sex, age, or disability be excluded from participating in any activity conducted with or benefiting from Federal assistance.

This provision binds the contractor and subtier contractors from the bid solicitation period through the completion of the contract. This provision is in addition to that required of Title VI of the Civil Rights Act of 1964.

Reference: 49 USC § 47123

#### **CIVIL RIGHTS - TITLE VI ASSURANCE**

#### **Compliance with Nondiscrimination Requirements**

During the performance of this contract, the contractor, for itself, its assignees and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

- 1. Compliance with Regulations: The contractor (hereinafter includes consultants) will comply with the Title VI List of Pertinent Nondiscrimination Acts And Authorities, as they may be amended from time to time, which are herein incorporated by reference and made a part of this contract.
- 2. Nondiscrimination: The contractor, with regard to the work performed by it during the contract, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor will not participate either directly or indirectly in the discrimination prohibited by the Nondiscrimination Acts and Authorities, including employment practices when the contract covers any activity, project, or program set forth in Appendix B of 49 CFR, part 21.
- 3. Solicitations for Subcontracts, Including Procurements of Materials and Equipment: In all solicitations, either by competitive bidding, or negotiation made by the contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by the contractor of the contractor's obligations under this contract and the Nondiscrimination Acts And Authorities on the grounds of race, color, or national origin.
- 4. Information and Reports: The contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the City or the Federal Aviation Administration to be pertinent to ascertain compliance with such Nondiscrimination Acts And Authorities and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the City or the Federal Aviation Administration, as appropriate, and will set forth what efforts it has made to obtain the information.
- 5. Sanctions for Noncompliance: In the event of a contractor's noncompliance with the Nondiscrimination provisions of this contract, the City will impose such contract sanctions as it or the Federal Aviation Administration may determine to be appropriate, including, but not limited to:

- a. Withholding of payments to the contractor under the contract until the contactor complies; and/or
- b. Cancelling, terminating, or suspending a contract, in whole or in part.
- 6. Incorporation of Provisions: The contractor will include the provisions of paragraphs one through six in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. The contractor will take action with respect to any subcontract or procurement as the City or the Federal Aviation Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if the contractor becomes involved in, or is threatened with, litigation with a subcontractor, or supplier because of such direction, the contractor may request the City to enter into any litigation to protect the interests of the City. In addition, the contractor may request the United States to enter into the litigation to protect the interests of the City to enter into the litigation.

#### Title VI List of Pertinent Nondiscrimination Acts and Authorities

During the performance of this contract, the contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "contractor") agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

- Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d *et seq.*, 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin);
- 49 CFR part 21 (Non-discrimination In Federally-Assisted Programs of The Department of Transportation—Effectuation of Title VI of The Civil Rights Act of 1964);
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 U.S.C. § 4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Section 504 of the Rehabilitation Act of 1973, (29 U.S.C. § 794 *et seq.*), as amended, (prohibits discrimination on the basis of disability); and 49 CFR part 27;
- The Age Discrimination Act of 1975, as amended, (42 U.S.C. § 6101 *et seq.*), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC § 471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);

- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, subrecipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act of 1990, which prohibit discrimination on the basis of disability in the operation of public entities, public and private transportation systems, places of public accommodation, and certain testing entities (42 U.S.C. §§ 12131 – 12189) as implemented by Department of Transportation regulations at 49 CFR parts 37 and 38;
- The Federal Aviation Administration's Non-discrimination statute (49 U.S.C. § 47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures nondiscrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 Fed. Reg. at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 U.S.C. 1681 et seq).

Reference: 49 USC § 47123 and FAA Order 1400.11

#### FEDERAL REQUIREMENTS: <u>FR-A7</u>

#### **CLEAN AIR AND WATER POLLUTION CONTROL**

Contractor agrees to comply with all applicable standards, orders, and regulations issued pursuant to the Clean Air Act (42 U.S.C. § 740-7671q) and the Federal Water Pollution Control Act as amended (33 U.S.C. § 1251-1387). The Contractor agrees to report any violation to the City immediately upon discovery. The City assumes responsibility for notifying the Environmental Protection Agency (EPA) and the Federal Aviation Administration.

Contractor must include this requirement in all subcontracts that exceed \$150,000.

*Reference:* 2 CFR § 200, Appendix II(G)

## CONTRACT WORKHOURS AND SAFETY STANDARDS ACT REQUIREMENTS

## COPELAND "ANTI-KICKBACK" ACT

## **DAVIS - BACON REQUIREMENTS**

#### FEDERAL REQUIREMENTS: <u>FR-A11</u>

#### CERTIFICATION OF OFFEROR/BIDDER REGARDING DEBARMENT

By submitting a bid/proposal under this solicitation, the Contractor certifies that neither it nor its principals is presently debarred or suspended by any Federal department or agency from participation in this transaction.

The successful bidder, by administering each lower tier subcontract that exceeds \$25,000 as a "covered transaction," must verify each lower tier participant of a "covered transaction" under the project is not presently debarred or otherwise disqualified from participation in this federally assisted project. The successful bidder will accomplish this by:

- 1. Checking the System for Award Management at website: <u>http://www.sam.gov</u>
- 2. Collecting a certification statement similar to the Certificate Regarding Debarment and Suspension (Bidder or Offeror), above.
- 3. Inserting a clause or condition in the covered transaction with the lower tier contract.

If the FAA later determines that a lower tier participant failed to disclose to a higher tier participant that it was excluded or disqualified at the time it entered the covered transaction, the FAA may pursue any available remedies, including suspension and debarment of the non-compliant participant.

Reference: 2 CFR part 180 (Subpart C), 2 CFR part 1200, DOT Order 4200.5

#### DISADVANTAGED BUSINESS ENTERPRISE

**Contract Assurance (§26.13)** - The Contractor or subcontractor shall not discriminate on the basis of race, color, national origin, or sex in the performance of this Contract. The Contractor shall carry out applicable requirements of 49 CFR Part 26 in the award and administration of DOT assisted contracts. Failure by the Contractor to carry out these requirements is a material breach of this Contract, which may result in the termination of this Contract or such other remedy, as the recipient deems appropriate.

**Prompt Payment (§26.29)** - The prime contractor agrees to pay each subcontractor under this prime contract for satisfactory performance of its contract no later than **10** days from the receipt of each payment the prime contractor receives from the City. The prime contractor agrees further to return retainage payments to each subcontractor within **30** days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment from the above referenced time frame may occur only for good cause following written approval of the City. This clause applies to both DBE and non-DBE subcontractors.

Reference: 49 CFR part 26

#### TEXTING WHEN DRIVING

In accordance with Executive Order 13513, "Federal Leadership on Reducing Text Messaging While Driving" (10/1/2009) and DOT Order 3902.10 "Text Messaging While Driving" (12/30/2009), the FAA encourages recipients of Federal grant funds to adopt and enforce safety policies that decrease crashes by distracted drivers, including policies to ban text messaging while driving when performing work related to a grant or sub-grant.

In support of this initiative, the City encourages the Contractor to promote policies and initiatives for its employees and other work personnel that decrease crashes by distracted drivers, including policies that ban text messaging while driving motor vehicles while performing work activities associated with the project. The Contractor must include the substance of this clause in all sub-tier contracts exceeding \$3,500 and involve driving a motor vehicle in performance of work activities associated with the project.

Reference: Executive Order 13513 and DOT Order 3902.10

## **ENERGY CONSERVATION REQUIREMENTS**

The Contractor and subcontractor agree to comply with mandatory standards and policies relating to energy efficiency as contained in the state energy conservation plan issued in compliance with the Energy Policy and Conservation Act (42 U.S.C. 6201 *et seq*).

Reference: 2 CFR § 200, Appendix II(H)

# EQUAL EMPLOYMENT OPPORTUNITY (E.E.O,)

#### FEDERAL FAIR LABOR STANDARDS ACT (FEDERAL MINIMUM WAGE)

All contracts and subcontracts that result from this solicitation incorporate by reference the provisions of 29 CFR part 201, the Federal Fair Labor Standards Act (FLSA), with the same force and effect as if given in full text. The FLSA sets minimum wage, overtime pay, recordkeeping, and child labor standards for full and part time workers.

The Contractor has full responsibility to monitor compliance to the referenced statute or regulation. The Contractor must address any claims or disputes that arise from this requirement directly with the U.S. Department of Labor – Wage and Hour Division.

Reference: 29 U.S.C. § 201, et seq.

#### **CERTIFICATION REGARDING LOBBYING**

The bidder or offeror certifies by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the Bidder or Offeror, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all sub-awards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all sub-recipients shall certify and disclose accordingly.

This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

*Reference:* 31 U.S.C. § 1352 – Byrd Anti-Lobbying Amendment, 2 CFR part 200, Appendix II(J) and 49 CFR part 20, Appendix A

## **PROHIBITION OF SEGREGATED FACILITIES**

#### **OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970**

All contracts and subcontracts that result from this solicitation incorporate by reference the requirements of 29 CFR Part 1910 with the same force and effect as if given in full text. Contractor must provide a work environment that is free from recognized hazards that may cause death or serious physical harm to the employee. The Contractor retains full responsibility to monitor its compliance and their subcontractor's compliance with the applicable requirements of the Occupational Safety and Health Act of 1970 (20 CFR Part 1910). Contractor must address any claims or disputes that pertain to a referenced requirement directly with the U.S. Department of Labor – Occupational Safety and Health Administration.

Reference: 20 CFR part 1910

## FEDERAL REQUIREMENTS: <u>FR-A20</u>

#### PROCUREMENT OF RECOVERED MATERIALS

Contractor and subcontractor agree to comply with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, and the regulatory provisions of 40 CFR Part 247. In the performance of this Contract and to the extent practicable, the Contractor and subcontractors are to use products containing the highest percentage of recovered materials for items designated by the Environmental Protection Agency (EPA) under 40 CFR Part 247 whenever:

a) The contract requires procurement of \$10,000 or more of a designated item during the fiscal year; or,

b) The Contractor has procured \$10,000 or more of a designated item using Federal funding during the previous fiscal year.

The list of EPA-designated items is available at www.epa.gov/epawaste/conserve/tools/cpg/products/.

Section 6002(c) establishes exceptions to the preference for recovery of EPA-designated products if the Contractor can demonstrate the item is:

a) Not reasonably available within a timeframe providing for compliance with the contract performance schedule;

b) Fails to meet reasonable contract performance requirements; or

c) Is only available at an unreasonable price.

Reference: 2 CFR § 200.322 and 40 CFR part 247

#### **RIGHT TO INVENTIONS**

## SEISMIC SAFETY

#### **TERMINATION OF CONTRACT**

#### **Termination for Convenience (Construction & Equipment Contracts)**

The City may terminate this Contract in whole or in part at any time by providing written notice to the Contractor. Such action may be without cause and without prejudice to any other right or remedy of City. Upon receipt of a written notice of termination, except as explicitly directed by the City, the Contractor shall immediately proceed with the following obligations regardless of any delay in determining or adjusting amounts due under this clause:

1. Contractor must immediately discontinue work as specified in the written notice.

2. Terminate all subcontracts to the extent they relate to the work terminated under the notice.

3. Discontinue orders for materials and services except as directed by the written notice.

4. Deliver to the City all fabricated and partially fabricated parts, completed and partially completed work, supplies, equipment and materials acquired prior to termination of the work and as directed in the written notice.

5. Complete performance of the work not terminated by the notice.

6. Take action as directed by the City to protect and preserve property and work related to this Contract that City will take possession.

City agrees to pay Contractor for:

a) completed and acceptable work executed in accordance with the contract documents prior to the effective date of termination;

b) documented expenses sustained prior to the effective date of termination in performing work and furnishing labor, materials, or equipment as required by the contract documents in connection with uncompleted work;

c) reasonable and substantiated claims, costs and damages incurred in settlement of terminated contracts with Subcontractors and Suppliers; and

d) reasonable and substantiated expenses to the Contractor directly attributable to City's termination action.

City will not pay Contractor for loss of anticipated profits or revenue or other economic loss arising out of or resulting from the City's termination action.

The rights and remedies this clause provides are in addition to any other rights and remedies provided by law or under this Contract.

#### **Termination for Default (Equipment)**

The City may, by written notice of default to the Contractor, terminate all or part of this Contract if the Contractor:

1. Fails to commence the Work under the Contract within the time specified in the Notice- to Proceed;

2. Fails to make adequate progress as to endanger performance of this Contract in accordance with its terms;

3. Fails to make delivery of the equipment within the time specified in the Contract, including any City approved extensions;

4. Fails to comply with material provisions of the Contract;

5. Submits certifications made under the Contract and as part of their proposal that include false or fraudulent statements; or

6. Becomes insolvent or declares bankruptcy.

If one or more of the stated events occur, the City will give notice in writing to the Contractor and Surety of its intent to terminate the Contract for cause. At the City's discretion, the notice may allow the Contractor and Surety an opportunity to cure the breach or default.

If within 10 days of the receipt of notice, the Contractor or Surety fails to remedy the breach or default to the satisfaction of the City, the City has authority to acquire equipment by other procurement action. The Contractor will be liable to the City for any excess costs the City incurs for acquiring such similar equipment.

Payment for completed equipment delivered to and accepted by the City shall be at the Contract price. The City may withhold from amounts otherwise due the Contractor for such completed equipment such sum as the City determines to be necessary to protect the City against loss because of Contractor default.

City will not terminate the Contractor's right to proceed with the Work under this clause if the delay in completing the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor. Examples of such acceptable causes include: acts of God, acts of the City, acts of another Contractor in the performance of a contract with the City, and severe weather events that substantially exceed normal conditions for the location.

If, after termination of the Contractor's right to proceed, the City determines that the Contractor was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if the City issued the termination for the convenience the City.

The rights and remedies of the City in this clause are in addition to any other rights and remedies provided by law or under this Contract.

*Reference:* 2 CFR § 200 Appendix II(B), FAA Advisory Circular 150/5370-10, Section 80-09

#### TRADE RESTRICTION CERTIFICATION

By submission of an offer, the Offeror certifies that with respect to this solicitation and any resultant contract, the Offeror –

a. is not owned or controlled by one or more citizens of a foreign country included in the list of countries that discriminate against U.S. firms as published by the Office of the United States Trade Representative (U.S.T.R.);

b. has not knowingly entered into any contract or subcontract for this project with a person that is a citizen or national of a foreign country included on the list of countries that discriminate against U.S. firms as published by the U.S.T.R; and

c. has not entered into any subcontract for any product to be used on the Federal on the project that is produced in a foreign country included on the list of countries that discriminate against U.S. firms published by the U.S.T.R.

This certification concerns a matter within the jurisdiction of an agency of the United States of America and the making of a false, fictitious, or fraudulent certification may render the maker subject to prosecution under Title 18, United States Code, Section 1001.

The Offeror/Contractor must provide immediate written notice to the City if the Offeror/Contractor learns that its certification or that of a subcontractor was erroneous when submitted or has become erroneous by reason of changed circumstances. The Contractor must require subcontractors provide immediate written notice to the Contractor if at any time it learns that its certification was erroneous by reason of changed circumstances.

Unless the restrictions of this clause are waived by the Secretary of Transportation in accordance with 49 CFR 30.17, no contract shall be awarded to an Offeror or subcontractor:

- (1) who is owned or controlled by one or more citizens or nationals of a foreign country included on the list of countries that discriminate against U.S. firms published by the U.S.T.R. or
- (2) whose subcontractors are owned or controlled by one or more citizens or nationals of a foreign country on such U.S.T.R. list or
- (3) who incorporates in the public works project any product of a foreign country on such U.S.T.R. list;

Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by this provision. The knowledge and information of a Contractor is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

The Offeror agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification without modification in all lower tier subcontracts. The Contractor may rely on the certification of a prospective subcontractor that it is not a firm from a foreign country included on the list of countries that discriminate against U.S. firms as published by U.S.T.R, unless the Offeror has knowledge that the certification is erroneous.

This certification is a material representation of fact upon which reliance was placed when making an award. If it is later determined that the Contractor or subcontractor knowingly rendered an erroneous certification, the Federal Aviation Administration may direct through the City cancellation of the Contract or subcontract for default at no cost to the City or the FAA.

Reference: 49 USC § 50104 and 49 CFR part 30

#### VETERAN'S PREFERENCE

In the employment of labor (excluding executive, administrative, and supervisory positions), the Contractor and all sub-tier contractors must give preference to covered veterans as defined within Title 49 United States Code Section 47112. Covered veterans include Vietnam-era veterans, Persian Gulf veterans, Afghanistan-Iraq war veterans, disabled veterans, and small business concerns (as defined by 15 U.S.C. 632) owned and controlled by disabled veterans. This preference only applies when there are covered veterans readily available and qualified to perform the work to which the employment relates.

Reference: 49 USC § 47112(c)