



Notice of Request for Proposals (RFP)

SOLICITATION NUMBER: 2018-004--RFP

SERVICE: Aircraft Rescue and Fire Fighting Vehicle

PROPOSAL DUE DATE & TIME: November 6, 2017 by 3:00 pm (Arizona time)

MAILING ADDRESS: Phoenix-Mesa Gateway Airport Authority
Attn: Marian Whilden, Procurement Coordinator
5835 S. Sossaman Road
Mesa, AZ 85212

This solicitation may be downloaded from our website at www.gatewayairport.com. The Phoenix-Mesa Gateway Airport Authority (PMGAA) Administration Office Reception Area Staff will receive competitive sealed Bids for the specified material or service until the time and date cited above. Bids received on or before the correct time and date will be time stamped by a staff member and publicly recorded. Late Bids will not be considered. All submissions and Offeror conduct must comply with applicable PMGAA policies, rules and procedures. PMGAA may cancel this solicitation at any time for any legally permissible reason.

Bids must be submitted in a sealed envelope with the solicitation number and the Offeror's name and address clearly indicated on the envelope. All Bids must be completed in ink or typewritten. Additional instructions for preparing your Bid are provided in the solicitation package.

Requests for additional information or clarification of requirements must be in writing and submitted to:

Contact: Marian Whilden, Procurement Coordinator
Telephone: (480) 988-7646 (between 7 a.m. and 6 p.m., Monday - Thursday)
Email: mwhilden@gatewayairport.com

Deadline for submitting questions to PMGAA is October 19, 2017 by 5:00 pm (Arizona time). Responses to questions received will be issued in an addendum to the Request for Proposals and posted at www.gatewayairport.com in the Procurement section of the website. Consultants are responsible for checking the PMGAA website at www.gatewayairport.com for any addendums that may be created for this solicitation. All addenda issued by PMGAA must be signed and included in Offeror's submittal as stated in Section 1A, paragraph 2.

Direct contact with Airport Authority Board of Directors and/or Airport Authority representatives or staff other than as specified in this solicitation, on any subject related to this solicitation is expressly prohibited except with the prior knowledge and written permission of the procurement coordinator listed above. Unauthorized contact of any Airport Authority Board of Directors, and/or Airport Authority staff or representatives may be cause for rejection of proposals.

Issue Date: October 5, 2017

Request for Proposals Table of Contents

Section	Page
Notice of Request for Proposals	i
Table of Contents	1
Notice of Intent Form	2
Introduction	3
Section One – Information and Instructions	4
Section Two – Special Provisions and Specifications	8
Section Three – Standard Terms and Conditions	11
Attachment A – Authorization for Release of Performance Information and Waiver	17
Attachment B – Offer and Acceptance	18
Attachment C – Minimum Specifications & Explanations	19
Attachment D – Price Page	40
Attachment E – Warranty	41
Attachment F – Parts Availability & Capability	42
Attachment G –Manufacturer’s Recommended Service Program & Costs	43
Attachment H – Ancillary Equipment	44

Notice of Intent

Solicitation Number 2018-004-RFP, Aircraft Rescue and Fire Fighting Vehicle

Please fax or email this page upon receipt of solicitation package

Fax: (480) 988-2315

Email: mwhilden@gatewayairport.com

This notice is to be completed by any Offeror who intends to submit a response to the Phoenix-Mesa Gateway Airport Authority (PMGAA) for the above titled solicitation. The submittal of this form in no way obligates an Offeror to provide any services or materials to the PMGAA.

Offeror Responsibilities:

- Offerors are responsible for checking the PMGAA website at www.gatewayairport.com for any addendums that may be created for this solicitation.
- Offerors shall submit responses in accordance with requirements stated in the solicitation.
- Offerors may not submit responses to a solicitation via email or fax.

For any clarifications, please contact Marian Whilden, Procurement Coordinator, at (480) 988-7646 or e-mail: mwhilden@gatewayairport.com.

Date: _____ Name: _____

Company: _____

Telephone: _____ Email: _____

Yes, I intend to respond to this solicitation

If you are unable to respond on this item, kindly indicate your reason for "No Response" below and fax back.

No, I do not intend to respond to this solicitation for the following reason(s):

How did you hear about this solicitation? (Please circle or write in)

Arizona Business Gazette

East Valley Tribune

PMGAA Web Site

Direct email

Industry Association: _____

Other: _____

Introduction

Purpose:

The purpose of this Request for Proposals is to solicit proposals for the purchase of an Aircraft Rescue and Fire Fighting Vehicle to be used by Mesa Fire Department employees in responding to emergencies on the Airport.

Background:

The Phoenix-Mesa Gateway Airport is owned and operated by the Phoenix-Mesa Gateway Airport Authority. The PMGAA Board of Directors is represented by the Cities of Apache Junction, Mesa and Phoenix, Towns of Gilbert and Queen Creek, and the Gila River Indian Community. The Board of Directors provides policy direction for the Airport Authority. An Executive Director and profession staff conducts the day-to-day activities of the Airport Authority.

The Airport Authority oversees the operation and development of the Phoenix-Mesa Gateway Airport, reliever airport to Phoenix Sky Harbor International Airport.

Section One - Offeror Information and Instructions

A. GENERAL INFORMATION ON SOLICITATION PROCESS

1. **Availability of Solicitation.** The solicitation package is available via the Internet at www.gatewayairport.com under the Procurement tab.
2. **Addendums.** If the PMGAA deems it necessary to amend the solicitation, an Addendum will be prepared in writing and posted on the PMGAA website. Offerors are responsible for obtaining all addendums via the PMGAA website at www.gatewayairport.com or by other means. Any Addendums issued by the PMGAA are to be included in the response, and will become a part of the contract. Offeror shall acknowledge receipt of an amendment by signing and returning the document by the specified due time and date.
3. **Familiarization with Requirements.** It is the Offeror's responsibility to examine the entire solicitation package and seek clarification of any requirement that may not be clear and to check all responses for accuracy before submitting a response. Negligence in preparing a submittal confers no right of withdrawal after due date and time. All submissions must comply with applicable PMGAA rules, regulations and policies.
4. **Cost of Submittal Preparation.** PMGAA shall not reimburse the cost of developing, presenting or providing any response to this solicitation.
5. **Inquiries.**
 - a. **Contact Person.** Any inquiry related to a solicitation, including any requests for or inquiries regarding standards referenced in the solicitation should be directed to the staff member listed on the cover page of the solicitation. The Offeror shall not contact or direct inquiries concerning this solicitation to any other PMGAA employee unless the solicitation specifically identifies additional person(s) as a contact.
 - b. **Submission of Inquiries.** All inquiries shall be submitted in writing and/or electronic mail and shall refer to the appropriate solicitation number, page and paragraph. PMGAA shall consider the relevancy of the inquiry but is not required to respond in writing.
 - c. **Timeliness.** Any inquiry or exception to the solicitation shall be submitted as soon as possible and should be submitted at least ten (10) days before the solicitation due date and time for review and determination by PMGAA. Failure to do so may result in the inquiry not being considered for an Addendum.
 - d. **Verbal Responses.** Oral interpretations or clarifications will be without legal effect. An Offeror shall not rely on verbal responses to inquiries. A verbal reply to an inquiry does not constitute a modification of the solicitation.
6. **Public Record.** All submittals in response to this solicitation shall become the property of PMGAA, shall not be returned to Offeror and shall become a matter of public record available for review subsequent to the contract award.
7. **Offer and Acceptance Period.** In order to allow for adequate evaluation, all proposals shall remain valid and irrevocable for ninety (90) days after the opening time and date of proposals.

8. **Solicitation Results.** Results are not provided in response to telephone inquiries. A tabulation of responses received will remain on file at PMGAA, and a Notice of Intent to Award shall be posted to the web site.
9. **Protest of Solicitation or Specifications (Before Bid Opening).**
 - a. Any interested person aggrieved in connection with the solicitation of a contract shall protest irregularities in the IFB, RFP, or RFQ within three business days from the date the protester knew or should have known of the basis for the protest and, in any case, at least five business days before opening bids or proposals.
 - b. All protests must be made in writing to the Purchasing Director / Chief Financial Officer. Each protest must state the specific factual and legal grounds on which the protest is based. The protester must also include with the protest all pertinent documents and all supporting evidence. PMGAA need not accept any protest that fails to comply with the requirements of this section. The protester's failure to timely protest specifications or other solicitation terms and conditions constitutes a waiver of the protest.
 - c. If a timely protest before bid opening is made, PMGAA may proceed with the solicitation or with the award of the contract unless the Purchasing Director / Chief Financial Officer determines in writing that the protest should be sustained or that an addendum addressing the protest should be issued.
10. **Protest of Award Recommendation.**
 - a. A protest made after the deadline for bids or proposals, including challenges to the evaluation committee, must be submitted in writing to the Purchasing Director / Chief Financial Officer.
 - b. A protest must be received by the Purchasing Director / Chief Financial Officer within five business days following public posting of PMGAA's award recommendation. The formal protest must contain the following information.
 - i. PMGAA's solicitation identification number and title.
 - ii. Name and address of the protester, the title or position of the person submitting the protest, and a statement that the protest has been authorized by the protester and the protest is made in good faith.
 - iii. A statement of all facts alleged and all rules, regulations, statutes, or constitutional provisions that entitles the protester to relief.
 - iv. All other information, documents, materials, legal authority, and evidence in support of the protest.
 - v. A statement indicating the precise relief sought by the protester.
 - c. The Purchasing Director / Chief Financial Officer will make a written decision on the protest within ten business days after it is received.
 - d. The Protester may appeal the Purchasing Director / Chief Financial Officer's decision to the Executive Director. Any appeal must be filed with the Executive Director within three business days after the protester receives the Purchasing Director / Chief Financial Officer's decision.
 - e. The Executive Director may hear the appeal or appoint an independent hearing officer to do so. If a hearing officer is appointed, the hearing officer shall conduct an informal hearing on the appeal within 10 business days from receipt of the appeal. The hearing officer shall

promptly prepare an informal decision and recommendation on the appeal for the Executive Director's consideration. The hearing officer shall promptly serve the recommendation on the protester.

- f. Upon receipt of the hearing officer's recommendation, or if no hearing officer is appointed, the Executive Director shall decide any protest for a solicitation valued at less than \$50,000. For solicitations valued less than \$50,000 or sustained protests, the Executive Director's decision is final. For solicitations valued over \$50,000 and the Executive Director is recommending denial of the protest, the Executive Director shall make a recommendation to the Board, and the Board shall make the final decision regarding award of the contract.
 - g. Notice of the Board's final decision must be furnished to the protesting party, in writing, by the Purchasing Director / Chief Financial Officer.
11. **Special Conditions.** Wherever special conditions are written into the Special Conditions and Specifications (Section Two), which are in conflict with conditions stated in these Instructions to Offerors, the conditions stated in Special Provisions and Specifications, shall take precedence.
 12. **Title VI Solicitation Notice.** PMGAA, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all Bidders/Offerors that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises to be afforded full and fair opportunity to submit a proposal to the solicitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award.
 13. **Federal Fair Labor Standards Act.** 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 Offeror has full responsibility to monitor compliance to the referenced statute or regulation. The Offeror must address any claims or disputes that arise from this requirement directly with the U.S. Department of Labor – Wage and Hour Division

14. **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. Offeror must provide a work environment that is free from recognized hazards that may cause death or serious physical harm to the employee. The Offeror 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). Offeror 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.

B. PROPOSAL PREPARATION AND SUBMITTAL

1. **Proposal Preparation.**
 - a. Forms. All proposals shall include the required forms provided in this solicitation. It is permissible to copy these forms if required.

- b. No Facsimile or Electronic Mail Responses. Proposals may not be submitted in facsimile or electronically and will not be considered.
- c. Confidential Information. Requests for nondisclosure of data such as trade secrets and other proprietary data must be made known to the Procurement Coordinator in writing. PMGAA shall review all requests for confidentiality and provide a written determination.

2. Proposal Submittal.

- a. Submission Package. One (1) original and the specified number of copies of the submittal (see Section Two) should be contained in each submission package. Each submittal package/envelope should be firmly sealed and clearly marked on the outside with the solicitation number, "Request for Proposal" and the name and address of the Offeror.
- b. Late Submittals. Late submittals will be rejected and returned to the Offeror.
- c. No Modifications. Modifications are not permitted after proposals have been opened except as otherwise provided under applicable law.
- d. Withdrawal of Proposal. RFP submittals may be withdrawn at any time prior to the specified due date and time. An Offeror (or authorized representative) may withdraw the response by notifying the designated contact for this solicitation in writing on company letterhead. Facsimiles, telegraphic or mailgram withdrawals shall not be considered.

3. RFP Evaluation.

- a. Conformance to RFP. Each proposal received will be checked for the presence or absence of required information in conformance with the submission requirements of this RFP and to ensure that the submittal is fully responsive to the specifications listed.
- b. Disqualification. An Offeror who is currently debarred, suspended or otherwise lawfully prohibited from any public procurement activity will have its response rejected.
- c. Clarifications. PMGAA reserves the right to obtain Offeror clarifications where necessary to arrive at full and complete understanding of Offeror's response. Clarification means a communication with an Offeror for the sole purpose of eliminating ambiguities in the proposal and does not give Offeror an opportunity to revise or modify its submittal.
- d. Response Rejection. Submission of additional terms, conditions and/or agreements with the proposal response may result in rejection.

4. Award of Contract.

- a. Rights of PMGAA. The PMGAA reserves the right to award to whichever Offeror(s) deemed most advantageous to the PMGAA. The PMGAA may reject any or all submittals, waive any minor informality in submittals received, reject any alternate submittals and reserves the right to reject the submittal(s) of any Offeror who has previously failed to perform competently in any contract with the PMGAA.
- b. Selection. The contract shall be awarded using the criteria outlined in Section Two.
- c. Notification. Prior to contract award, the selected successful Offeror(s) will be notified of their apparent selection for contract award, and (a) contract(s) will be drawn which will include by reference this solicitation and any other contractual language as may be required by the PMGAA or by law.

Section Two – Special Instructions and Specifications

A. INFORMATION SPECIFIC TO THIS SOLICITATION

Intended use of the Aircraft Rescue and Fire Fighting (ARFF) vehicle is to provide fire containment and suppression, passenger and crew rescue, and maintenance of the site to aid in after-incident investigations. The ARFF vehicle serves as a medium to deliver fire fighters, specialized tools and equipment, and firefighting agents to the scene of an aircraft incident.

- ARFF Vehicle shall be new.
- Any bid NOT meeting the minimum requirements specified shall be rejected.
- Specifications may be exceeded and should be noted by the Offeror.
- PMGAA reserves the right to inspect and refuse equipment for purchase based upon the established requirements.

B. MINIMUM SPECIFICATIONS

The Offeror shall, in its bid, affirmatively demonstrate or attest to its ability to meet the minimum specifications as detailed in Attachment C. Specifications may be exceeded and shall be noted by Offeror.

C. ADDITIONAL INFORMATION

- Training. Training and instruction on both the complete operation and maintenance of the ARFF vehicle shall be provided by the Offeror in accordance with Attachment C. Said training shall take place in Mesa, Arizona and not more than 60 days after delivery of the ARFF vehicle to the address noted below.
- Manuals. All manuals shall be delivered to the contact (Larry BaBarbera) at the address noted below in hardcopy and digital format within 2 days of delivery of the ARFF vehicle to the address noted below and shall meet all requirements as stated in Attachment C. All costs of manuals, if any, shall be listed in Attachment D.
- Warranty. Warranty start date shall begin the date the vehicle is delivered to the address noted below. Standard warranty by Offeror is at no additional charge to PMGAA.
- Payment Terms. Payment will be made by PMGAA 30 days upon receipt and successful test of the ARFF vehicle. Payment discount period, if offered, shall be computed from the date of receipt of the ARFF vehicle or correct invoice, whichever is later. Unless freight and other charges are itemized, any discount provided shall be taken on full amount of invoice. PMGAA shall be entitled to take advantage of any payment discount offered by Offeror provided payment is made within the discount period.
- Proposal Guarantee. Offeror's proposal submitted, including all pricing, terms and conditions, shall be guaranteed for 90 days from November 6, 2017.
- Delivery of vehicle shall be made to:
City of Mesa Fleet Maintenance
708 W. Baseline Road, Building 3
Mesa, AZ 85210

Offeror shall schedule delivery at least three days ahead by contacting:
Larry LaBarbera at 480-226-6126

- Ancillary equipment. Ancillary equipment is funded separately by other sources. Equipment funding will be obtained as a separate contract under the provisions of AC 150/5210-14, Aircraft Rescue and Fire Fighting Equipment, Tools, and Clothing.

Offeror may include a proposal and pricing for ancillary equipment to be procured under a separate purchase order (See Attachment H). Pricing is to be listed in Attachment D, Price Page. PMGAA is under no obligation to purchase such ancillary equipment from Offeror.

D. SUBMITTAL REQUIREMENTS

Offerors interested in responding to this solicitation should submit a proposal with a maximum length of fifteen (15) pages to address the RFP criteria as specified in this Section D.

In responding to this RFP, Offerors shall organize their submission in such a way as to follow the general evaluation criteria listed below. Information included within the proposal may be used to evaluate your company as part of any criteria, regardless of where that information is found within the proposal. Information obtained from the proposal and from any other relevant source may be used in the evaluation and selection process.

1. Cover Letter (maximum 1 page)

- A.** Identify the full company name, mailing address, telephone number, and email address for the person who will serve as the firm's primary contact person for their proposal.
- B.** Provide a brief introduction and history of the Offeror's company

2. Equipment Description (maximum 8 pages)

- A.** A complete, detailed description of the unit and its operational capabilities, including those for all major components. Promotional materials may or may not satisfy this requirement
- B.** Provide a photograph of the proposed unit

3. Qualifications Criteria

A. Price Page (30 points)

- Submitted as Attachment D

B. Length of Standard Warranty (25 points)

- Warranty start date shall begin the date the vehicle is delivered to the City of Mesa at the address noted in Section 2C.
- Length of standard warranty in specific areas offered such as engine, transmission, pumps, etc. shall be detailed in Attachment E by Offeror.
- An alternate quote is requested for an extended warranty period offered and shall be listed in Attachment E by Offeror.

C. Parts Availability & Capability (20 points)

- Since the continuous operation of PMGAA's equipment is important and sometimes of an emergency nature, parts availability is of high importance. Offeror must describe their parts availability and capability in Attachment F of this RFP.

D. Manufacturer's Recommended Service Program & Costs (20 points)

- Submitted as Attachment G

E. Miscellaneous (5 points)

- Other items included in the RFP such as ARFF vehicle specifications

4. Supplemental Materials (maximum 6 pages)

Brochures, photos, documents providing any additional information about the ARFF vehicle proposed

5. Appendices to be included in proposal submittal:

- A.** Attachment A: "Authorization for Release of Performance Information and Waiver" form shall be completed, signed and included in the submittal.
- B.** Attachment B: "Offer and Acceptance" form shall be completed, signed and included in the submittal
- C.** Attachment D: "Price Page" form shall be completed, signed and included in the submittal
- D.** Attachment E: "Warranty" form shall be completed and included in the submittal
- E.** Attachment F: "Parts Availability & Capability" form shall be completed and included in the submittal

- F. Attachment G: “Manufacturer’s Recommended Service Program & Costs” shall be provided and included in the submittal
- G. List of any specifications exceeded by Offeror’s proposed ARFF vehicle, if applicable.

E. SUBMITTAL INSTRUCTIONS

1. The proposal may not exceed fifteen (15) single-sided pages (maximum 8½” x 11”) with a minimum of 11 pt. type. Submissions exceeding the page limit will be considered non-responsive and will be returned to the responder without further evaluation. Responders must submit one (1) original, four (4) copies of their proposal for a total of five (5).
2. The following information is not included in the page limit:
 - a. Attachment A: “Authorization for Release of Performance Information and Waiver”
 - b. Attachment B: “Offer and Acceptance”
 - c. Attachment D: “Price Page”
 - d. Attachment E: “Warranty”
 - e. Attachment F: “Parts Availability & Capability”
 - f. Attachment G: “Manufacturer’s Recommended Service Program & Costs”
 - g. List of any specifications exceeded
 - h. Any Addenda issued by PMGAA.
3. Do not include a table of contents or tab dividers. Submittals should be bound by plastic or metal three Ring binder only. Pages having photos, charts, and/or graphs that provide additional evaluation information will be counted towards the maximum number of pages.
4. Failure to include all information requested shall cause such incomplete proposals to be rejected and not be evaluated or considered in the selection process.
5. Proposals must be submitted in a sealed envelope with the solicitation number and the responder’s name and address clearly indicated on the envelope. Proposals must be submitted to the contact person indicated on the Notice of Request for Proposal (RFP) on or before the due date. **LATE SUBMITTALS WILL NOT BE ACCEPTED.**

F. SELECTION PROCESS

1. The Airport Authority will appoint an evaluation panel to evaluate each Offeror’s proposal. Using the criteria listed herein, and in order of preference, the selection committee will rank the Offerors.
2. The Airport Authority may request references from each Offeror during the evaluation period and contact and interview references.
3. The evaluation panel may then make a selection solely based on their collective evaluations of the Offerors’ proposal and references.
4. The evaluation panel may conduct interviews with the short-listed top-ranked offerors.
5. Offerors are evaluated on any combination of the following elements: 1) Proposal submitted in response to this RFP, including, but not limited to equipment cost, warranty, service 2) reference verification; 3) interview performance (if conducted); 4) any information from any source about the Offeror, whether included in the proposal or not.
6. PMGAA may cancel this solicitation at any time for any reason or no reason, so long as such is legally permissible.

Section Three – Standard Terms and Conditions

1. **Certification.** By signature in the offer section of the Offer and Acceptance page, Consultant certifies:
 - a. The award of this Contract did not involve collusion or other anti-competitive practices.
 - b. It shall not discriminate against any employee or applicant for employment in violation of Federal Executive Order 11246, or A.R.S. Section 31-1461, et. seq.
 - c. It has not given, offered to give, nor intends to give at any time hereafter, any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor, or service to a public servant in connection with this Contract; and Consultant hereby certifies that the individual signing this Contract is an authorized agent for Consultant and has the authority to bind the Consultant to the Contract.

2. **Termination of Contract.**
 - a. This Contract may be terminated at any time by mutual written consent or by PMGAA - with or without cause - provided the terminating party gives 14 calendar days' advance written notice to the other party. PMGAA may terminate this Contract, in whole or in part, for PMGAA's convenience and on 14 days' written notice. If this Contract is terminated, then PMGAA is liable only for services rendered and material received, certified, and approved by PMGAA under the Contract before the termination effective date.
 - b. PMGAA reserves the right to cancel this Contract in whole or in part due to failure of Consultant to carry out any term, promise, or condition of the Contract. At least ten days before terminating the Contract, PMGAA will issue a written notice of default specifying one of the following reasons.
 - (1) Consultant has provided personnel that do not meet the requirements of the Contract.
 - (2) Consultant has failed to perform adequately the stipulations, conditions or services/specifications required in this Contract.
 - (3) Consultant has attempted to impose on PMGAA personnel or materials, products, or workmanship of unacceptable quality.
 - (4) Consultant has failed to furnish the required service(s) and/or product(s) within the time stipulated in the Contract or associated Authorization of Services.
 - (5) Consultant has failed to make progress in the performance of the requirements of the Contract or Authorization of Services, or Consultant fails to give PMGAA adequate assurance the Consultant will perform the Contract in full and on time.
 - (6) Each payment obligation of PMGAA created hereby is conditioned on the availability of PMGAA, state, or federal funds appropriated for payment of the obligation. If funds are not available or allocated by PMGAA for continuance of service under this Contract, then PMGAA may terminate the Contract. PMGAA shall promptly notify Consultant regarding the service that may be affected by a shortage of funds. No penalty accrues to PMGAA if this provision is exercised, and PMGAA shall not be liable for any future payments due or for any damages as a result of termination under this paragraph.

3. **Records.** Internal control over all financial transactions related to this Contract shall be in accordance with sound fiscal policies. PMGAA may, at reasonable times and places, audit the books and records of Consultant or any and all of Consultant's subconsultants or subcontractors. The audit shall be limited to this Contract and its scope of services.

4. **Arbitration.** At PMGAA's sole option, disputes between the parties may be resolved through arbitration as provided in A.R.S. Section 12-1501, *et seq.* Consultant shall continue to render the services required by this Contract without interruption, notwithstanding either party has filed suit against the other or PMGAA has expressly agreed to arbitration and either party has demanded arbitration.

5. **Independent Contractor.** At all times, each party acts in its individual capacity and not as agent, employee, partner, joint venturer, or associate of the other party. An employee or agent of one party may not be deemed or construed to be the employee or agent of the other party for any purpose whatsoever.

Neither Consultant nor any of its employees are entitled to compensation from PMGAA in the form of salaries, paid vacation, or sick days.

PMGAA will not provide any insurance to Consultant, including *Workers' Compensation* coverage. PMGAA will not withhold FICA, taxes, or any similar deductions from PMGAA's payments under this Contract.
6. **Affirmative Action.** Consultant shall abide by all the federal and state of Arizona provisions for equal opportunity in the work place.
7. **Human Relations.** Consultant shall abide by all the federal and state of Arizona provisions against discrimination of disadvantaged business enterprises in applicable PMGAA contracts.
8. **Non-Exclusive Contract.** This Contract is for the sole convenience of PMGAA. PMGAA reserves the right in its discretion to obtain the same or similar goods or services from any other source.
9. **Patent Infringement.** The procuring agency should advise Consultant of any impending patent suit and provide all information available. Consultant shall defend any suit or proceeding brought against the procurement agency based on a claim that any equipment, or any part thereof, furnished under this contract constitutes an infringement of any patent, and the Contract shall pay all damages and costs awarded therein, excluding incidental and consequential damages, against the procuring agency. In case the equipment, or any part thereof, is in such suit held to constitute infringement and use of the equipment or part is enjoined, Consultant shall, at its own expense and at its option, either procure for the procuring agency the right to continue using the equipment or part, or replace same with non-infringing equipment, or modify it so it becomes non-infringing.
10. **Americans with Disabilities Act.** Consultant shall comply with all applicable provisions of the *Americans with Disabilities Act* (Public Law 101-336, 42 U.S.C. 12101-12213) and applicable federal regulations under the *Act*.
11. **Confidentiality of Records.** Consultant shall establish and maintain procedures and controls that are acceptable to PMGAA for the purpose of assuring that no information contained in its records or obtained from PMGAA or from others in carrying out its functions under the Contract shall be used by or disclosed by it, its agents, officers, or employees, except as required to efficiently perform duties under this Contract. Persons requesting such information should be referred to PMGAA. Consultant also agrees that any information pertaining to individual persons shall not be divulged other than to employees or officers of Consultant as needed for the performance of duties under the Contract, unless otherwise agreed to in writing by PMGAA.
12. **Shipment under Reservation Prohibited.** Consultant is not authorized to ship materials under reservation and no tender of a bill of lading shall operate as a tender of the materials. Non-compliance shall conform to the cancellation clause set forth within this Contract.
13. **Gratuities.** PMGAA may, by written notice to the Consultant, cancel this Contract if it is found that gratuities, in the form of entertainment, gifts or otherwise, were offered or given by Consultant or any agent or representative of Consultant, to any officer or employee of PMGAA involved in the amending, or the making of any determinations with respect to the performing of such Contract. If this Contract is canceled by PMGAA under this provision, PMGAA shall, in addition to any other rights and remedies, repay to the Consultant the amount of the gratuity.
14. **Applicable Law.** This Contract shall be governed by, and PMGAA and Consultant shall have, all remedies afforded each by the *Uniform Commercial Code*, as adopted in the state of Arizona, except as otherwise provided in this Contract or in laws pertaining specifically to PMGAA. This Contract shall be

governed by the laws of the state of Arizona, and suits pertaining to this Contract shall be brought only in federal or state courts in the state of Arizona.

15. **Contract.** This Contract is based on and the result of a negotiated Scope of Services and Fee Proposal submitted by Consultant. The Contract contains the entire agreement between PMGAA and Consultant. No prior oral or written agreements, contracts, proposals, negotiations, purchase orders, or master agreements (in any form) are enforceable between the parties.
16. **Legal Remedies.** All claims and controversies shall be subject to the PMGAA Procurement Code.
17. **Contract Amendments.** This Contract shall be modified only by a written amendment signed by the PMGAA Executive Director or his/her designee, and persons duly authorized to enter into contracts on behalf of Consultant.
18. **Provisions Required by Law.** Each and every provision of law and any clause required by law to be in the Contract shall be read and enforced as though it were included herein, and if through mistake or otherwise any such provision is not inserted, or is not correctly inserted, then upon the application of either party the Contract shall forthwith be physically amended to make such insertion or correction.
19. **Severability.** The provisions of this Contract are severable to the extent that any provision or application held to be invalid shall not affect any other provision or application of the Contract, which may remain in effect without the valid provision, or application.
19. **Protection of Government Property.** Consultant shall use reasonable care to avoid damaging all PMGAA property, including buildings, equipment, and vegetation (such as trees, shrubs, and grass). If Consultant damages PMGAA's property in any way, Consultant shall immediately repair or replace the damage at no cost to PMGAA, as directed by the PMGAA Executive Director. If Consultant fails or refuses to repair or replace the damage, then PMGAA may terminate the Contract, and PMGAA shall deduct the repair or replacement cost from money due Consultant under the Contract.
21. **Interpretation – Parol Evidence.** This Contract is intended by the parties as a final expression of their agreement and is intended also as a complete and exclusive statement of the terms thereof. No course of prior dealings between the parties and no usage of the trade shall be relevant to supplement or explain any term used in this Contract. Acceptance or acquiescence in a course of performance rendered under this Contract shall not be relevant to determine the meaning of this Contract even though the accepting or acquiescing party has knowledge of the nature of the performance and opportunity to object.
22. **Assignment – Delegation.** No right or interest in this Contract shall be assigned by Consultant without prior written permission of PMGAA, and no delegation of any duty of Consultant shall be made without prior written permission of PMGAA's Executive Director or his/her designee. PMGAA shall not unreasonably withhold approval and shall notify Consultant of PMGAA's position within fifteen (15) business days of receipt of written notice by Consultant.
23. **Subcontracts.** Consultant may not enter into a subcontract with any other party to furnish any of the material/service specified herein without PMGAA's advance written approval. All subcontracts shall comply with federal and state laws and regulations applicable to the services covered by the subcontract and shall include all the terms and conditions set forth herein, which shall apply with equal force to the subcontract, as if the subcontractor were the Consultant referred to herein. Consultant is responsible for Contract performance whether or not subcontractors are used. PMGAA shall not unreasonably withhold approval and shall notify Consultant of PMGAA's position within fifteen (15) business days of receipt of written notice by Consultant.
24. **Rights and Remedies.** No provision in this Contract shall be construed, expressly or by implication, to waive either party's existing or future claim, right, or remedy available by law for breach of contract. The failure of either party to insist on strict performance of any Contract term or condition; to exercise or delay exercising any right or remedy provided in the Contract or by law; or to accept materials, services, or Consultant's services under this Contract or imposed by law, shall not be deemed a waiver of any right of either party to insist upon strict performance of the Contract.

25. **Warranties.** Consultant warrants that all materials and services delivered under this Contract shall conform to the specifications thereof. Mere receipt of shipment of the material or service specified and any inspection incidental thereto by PMGAA, shall not alter or affect the obligations of Consultant or the rights of PMGAA under the foregoing warranties. Additional warranty requirements may be set forth in this Contract.
26. **Indemnification.** To the fullest extent permitted by law, Consultant shall defend, save, indemnify, and hold harmless PMGAA, its agents, representatives, officers, directors, officials, and employees (collectively the “Indemnitees”), for, from and against all claims, damages, losses and expenses, including but not limited to attorney fees, court costs, expert witness fees, and the cost of appellate proceedings, relating to, arising out of, or alleged to have resulted from the Consultant’s acts, errors, omissions, or mistakes relating to Consultant’s services under this Contract.
27. **Overcharges by Antitrust Violations.** PMGAA maintains that, in actual practice, overcharges resulting from antitrust violations are borne by the purchaser. Therefore, to the extent permitted by law, Consultant hereby assigns to PMGAA any and all claims for such overcharges as to the materials or services used to fulfill the Contract.
28. **Right to Assurance.** Whenever one party to this Contract in good faith has reason to question the other party’s intent to perform, the former party may demand that the other party give a written assurance of this intent to perform. If a demand is made and no written assurance is given within five (5) business days, the demanding party may treat this failure as an anticipatory repudiation with this Contract.
29. **Advertising.** Consultant shall not advertise or publish information concerning this Contract without prior written consent of PMGAA.
30. **Right to Inspect.** PMGAA may, at reasonable times, and at PMGAA’s expense, inspect the place of a Consultant’s or subcontractor’s business, which is related to the performance of this Contract or related subcontract.
31. **Force Majeure**
 - a. Neither party is liable to the other, and neither party may be deemed in default under this Contract, if and to the extent that such party’s performance of this Contract is prevented by reason of Force Majeure. The term “Force Majeure” means an occurrence that is beyond the control of the party affected and occurs without its fault or negligence. Force Majeure does not include late performance by a subcontractor unless the delay arises out of a specific Force Majeure in accordance with this Force Majeure term and condition.
 - b. If either party is delayed at any time in the progress of the work by Force Majeure, the delayed party shall notify the other party in writing, as soon as practical, of the delay and shall specify the causes of delay in the notice. The notice must be hand-delivered or mailed certified-return receipt and must specifically refer to this section. The delayed party shall cause the delay to cease as soon as practicable and shall notify the other party in writing when it has done so. The date of completion will be extended by Contract modification or amendment for the period of time that the completion date is necessarily delayed. This time extension is the Consultant’s exclusive remedy for delay.
32. **Inspection.** All material or service is subject to final inspection and acceptance by PMGAA. Material or service failing to conform to the specifications of this Contract will be held at Consultant’s risk and may be returned to Consultant. If so returned, all costs are the responsibility of Consultant. Noncompliance shall conform to the cancellation clause set forth in this Contract.
33. **Exclusive Possession.** All services, information, computer program elements, reports, and other deliverables, which may be created under this Contract, are the sole property of PMGAA and shall not be used or released by Consultant or any other person except with prior written permission by PMGAA.
34. **Title and Risk of Loss.** The title and risk of loss of materials or services shall not pass to PMGAA until PMGAA actually receives the material or service at the Airport, unless otherwise provided within this Contract.

35. **No Replacement of Defective Tender.** Every tender of materials must fully conform to all provisions of this Contract. If Consultant tenders a material or service that does not fully conform, PMGAA may terminate this Contract.
36. **Default in One Installment to Constitute Total Breach.** Consultant shall deliver conforming materials and services in each installment or lot of this Contract. Consultant may not substitute nonconforming materials or services. Delivery of nonconforming materials or a default of any nature, at the option of PMGAA, will constitute breach of the Contract as a whole.
37. **Liens.** All materials, services, and other deliverables supplied to PMGAA under this Contract must be free of all liens and other encumbrances. Upon request of PMGAA, Consultant shall provide a formal release of all liens.
38. **Licenses.** Consultant shall maintain in current status all federal, state, and local licenses and permits required for the operation of the business conducted by Consultant as applicable to this Contract.
39. **Cost Of Proposal Preparation.** The PMGAA shall not reimburse the cost of developing, presenting, or providing any response to this solicitation. Bids/proposals submitted for consideration should be prepared simply and economically providing adequate information in a straightforward and concise manner.
40. **Public Record.** All proposals submitted in response to this request shall become the property of the PMGAA and shall become a matter of public record available for review subsequent to the award notification.
41. **Subsequent Employment.** PMGAA may cancel this Contract without penalty or further obligation in accordance with A.R.S. Section 38-511 if any person significantly involved in initiating, negotiating, securing, drafting, or creating the contract, on behalf of the PMGAA is or becomes, at any time while the Contract or any extension of the contract is in effect, an employee of, or a contractor to any other party to this Contract with respect to the subject matter of the Contract. Such cancellation shall be effective when the parties to this Contract receive written notice from PMGAA, unless the notice specifies a later time.
42. **Clean Up.** Consultant shall at all times keep Contract performance areas, including storage areas used by the Consultant, free from accumulation of waste material or rubbish and, prior to completion of the work, remove any rubbish from the premises and all tools, scaffolding, equipment and materials not property of PMGAA. Upon completion of any repair, Consultant shall leave the work and premises in clean, neat, and workmanlike condition.
43. **Patents.** Consultant shall defend, indemnify, and hold harmless PMGAA, its officers and employees from all liabilities, claims, damages, costs, or expenses, including, but not limited to attorneys' fees, for any alleged infringement of any person's patent rights or copyrights in consequence of the use by PMGAA, its officers, employees, agents, and other duly authorized representatives of tangible or intellectual property supplied to PMGAA by Consultant under this Contract.
44. **Availability of Project Funding.** This Contract's approval and continuation is conditioned on the availability of funds appropriated by PMGAA for this purpose. If funds are not available or appropriated for the Contract's requirements, PMGAA may terminate the Contract. Possible sources of funding for this Contract include FAA and ADOT, and this Contract is contingent on the availability of those funds to PMGAA.
45. **Records and Audit Rights.** Consultant's and all of its approved subcontractors' books, records, correspondence, accounting procedures and practices, and any other supporting evidence relating to this Contract, including the papers of all Consultant and subcontractor employees that work on the Contract (all the foregoing collectively referred to as "Records"), must be open to inspection and subject to audit and/or reproduction during normal working hours by PMGAA. PMGAA is entitled to

evaluate and verify all invoices, payments or claims based on Consultant's and its subcontractor's actual costs (including direct and indirect costs and overhead allocations) incurred or units expended directly in the performance of work under this Contract. For any audit under this Section, Consultant and its subcontractors hereby waive the right to keep such Records confidential. PMGAA is entitled to access to these Records from the effective date of this Contract for the duration of the work and until five years after the date of final payment by PMGAA to Consultant under the Contract. During normal working hours, PMGAA is entitled to access to all necessary Consultant and subcontractor facilities and shall be provided adequate and appropriate workspace, in order to conduct audits under this Section. PMGAA shall give Consultant or subcontractors reasonable advance notice of intended audits. Consultant shall require its subcontractors to comply with the provisions of this Section by including its requirements in all subcontracts related to this Contract.

46. **E-Verify Requirements.** To the extent applicable under A.R.S. § 41-4401, Offeror and its subcontractors warrant compliance with all federal immigration laws and regulations that relate to their employees, and compliance with the E-Verify requirements under A.R.S. §23-214(A). Offeror's or its subcontractors' failure to comply with such warranty shall be deemed a material breach of this Contract and may result in the termination of this Contract by PMGAA.

Attachment A
Authorization for Release of Performance Information and Waiver

The purpose of this disclosure is to provide references to the Phoenix-Mesa Gateway Airport Authority. I hereby consent that as an Offeror to Phoenix-Mesa Gateway Airport Authority Solicitation 2018-004-RFP, Aircraft Rescue and Fire Fighting Vehicle for Phoenix-Mesa Gateway Airport, I authorize those companies and government entities listed in my RFP submittal and any other government entity for whom this company has provided ARFF Vehicles, to disclose and release to the Phoenix-Mesa Gateway Airport Authority, or their representatives, information, records and opinions concerning this company's past performance.

_____ (Company) hereby waives any claim it may have against the Phoenix-Mesa Gateway Airport Authority or any company or entity providing information to the Phoenix-Mesa Gateway Airport Authority by reason of any information being disclosed or opinions provided regarding the actions or performance of this company.

This authorization for disclosure of information is effective for one (1) year.

This consent or copy of this authorization shall be as valid and effective as the original.

Signature of Offeror

Date



Attachment B
Offer and Acceptance

OFFER TO PHOENIX-MESA GATEWAY AIRPORT AUTHORITY:

The Undersigned hereby offers and agrees to furnish the material or service in compliance with all terms, conditions, specifications, and amendments in the Request for Proposal including Attachment D – Price Page.

For clarification of this offer, contact:

Form fields for contact information: Company Name, Name, Address, Telephone, City, State, Zip Code, Fax, Signature of Person Authorized to Sign, Federal Tax Identification Number, Printed Name, Sales Tax License Number, Title.

The Offer is hereby accepted.

The Offeror is now bound to sell the equipment, materials or services listed by the attached contract and based upon the Request for Proposal, including all terms, conditions, specification, amendments, scope of work, addenda, the Offeror’s Price Offer and any best and final offers, as accepted by PMGAA.

This Contract shall henceforth be referred to as Contract Number C-2018004. The Offeror has been cautioned not to commence any billable work or to provide any equipment, materials or services under this contract until Offeror receives a purchase order, or is otherwise directed to do so in writing by the undersigned.

Phoenix-Mesa Gateway Airport Authority, a joint powers airport authority authorized and existing under the laws of the State of Arizona,

Awarded this _____ day of _____, 2017.

J. Brian O’Neill, A.A.E.
Executive Director/CEO

Attachment C
Minimum Specifications and Explanations

- 1. By submitting a proposal, Offeror hereby certifies that the Aircraft Rescue and Firefighting Vehicle submitted for consideration by PMGAA under this solicitation, 2018-004-RFP, meets all specifications contained in this Attachment C.**
- 2. Specifications may be exceeded and should be noted by Offeror and submitted to PMGAA as part of Offeror's proposal.**
- 3. For further clarification on specifications listed herein, Offeror is directed to the applicable document sources listed in this Attachment.**

TECHNICAL SPECIFICATIONS

FOR A

AIRCRAFT RESCUE AND FIREFIGHTING VEHICLE—CLASS 4

FOR

PHOENIX-MESA GATEWAY AIRPORT

MESA, AZ.

WITH AGENT CAPACITIES OF

1500 USABLE GALLONS OF WATER

400 GALLONS OF AFFF CONCENTRATE

450 POUNDS OF POTASSIUM-BASED DRY CHEMICAL

GENERAL CHARACTERISTICS

1. DEFINITIONS

This specification is intended to outline the technical specification requirements for an ARFF (Aircraft Rescue and Fire Fighting) vehicle in accordance with National Fire Protection Association (NFPA) 414 and classified in accordance with 14 CFR Part 139, Certification and Operations: Land Airports Serving Certain Air Carriers, Section 315, ARFF: Index Determination; Section 317 ARFF; Equipment and Agents; and Federal Aviation Administration **Advisory Circular 150/5220-10E (Advisory) or most recent version**. In all cases, when specifications in this document conflict with FAA published and referenced Advisory, the Advisory, shall take precedence.

This specification is for one new and unused “class 4” 1500-gallon water/Aqueous Film Forming Foam ARFF vehicle. As a minimum, vehicles offered in the bid process shall conform to the design and performance requirements set forth in the above referenced (NFPA & FAA) documents.

In addition to the basic requirements of the referenced Advisory, the following "Sponsor Election of ARFF Vehicle Subsystem Components" is made for inclusion in the vehicle price. The vehicle and any items, if applicable, shall be bid FOB Phoenix-Mesa Gateway Airport (Airport), Mesa AZ. The Airport is an Index C airport.

2. EXPECTED USE

This specification covers an all-wheel drive, diesel powered, ARFF vehicle having a mechanical foam/water system designed for extinguishing flammable and combustible liquid fuel fires. The primary function of the vehicle described in this specification is to provide an optimum level of ARFF suppression capability throughout the critical rescue and firefighting access area for the lowest practical cost. Vehicles complying with this specification meet the ARFF vehicle requirements of FAR Part 139.

3. FIRE SUPPRESSION CHARACTERISTICS

This vehicle is to be designed for a degree of off-pavement mobility not normally found in highway vehicles. The vehicle payload consists principally of the minimum usable (rated capacity) quantities of water shown in Table 1-2 of the Advisory and sufficient quantity of 3% AFFF foam concentrate to support four times the water quantity. The firefighting system used on the vehicle shall consist of water/AFFF foam.

4. MANUALS

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.

Technical manuals. 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.

Operator's manual. 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:

- The location and function of all controls and instruments will be illustrated and functionally described.
- Safety information that is consistent with the safety standards established by the Occupational Safety and Health Administration (OSHA) and NFPA.
- All operational and inspection checks and adjustments in preparation for placing the vehicle into service upon receipt from the manufacturer.
- Tie down procedures for transport on a low-boy trailer.
- 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.
- General description and necessary step-by-step instructions for the operation of the vehicle and its fire extinguishing system(s) and auxiliary equipment.
- A description of the post-operational procedures (draining, flushing, re-servicing, et cetera).
- Daily maintenance inspection checklists that the operator is expected to perform, including basic troubleshooting procedures.
- Disabled vehicle towing procedures.
- Procedures and equipment required for changing a tire.
- 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 Advisory, "unloaded" is defined as a lack of agent, occupants and compartment load, and "loaded" is defined as including agent, occupants and compartment load.

The Service Manual will include all specials 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. Firefighting 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.

Parts identification manual. 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.

Painting, plating, and corrosion control

Finish. 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 Safety Lime Yellow.

Dissimilar metals. 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.

Protection against deterioration. 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.

Reflective stripes. 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. Placement shall comply with FAA AC 150/5210-5 latest version.

Lettering. The numerals and the lettering shall be a reflective "red" vinyl material. The specific numeral provided to Offeror by PMGAA shall be affixed to the cap roof 23 inches high and on each side of the vehicle 16 inches high. Lettering shall be provided on both side of the vehicle, centered as best possible and sized to fit the available space. Actual details for lettering will be determined prior to vehicle completion. Contractor shall provide line drawings for approval. Vehicle lettering shall read line one: Phoenix-Mesa Gateway and line two: Airport Fire Rescue.

Vehicle identification plate. 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 & Type: gals (gallons)
- h. Date of Delivery (month and year)

- i. Warranty (months and km (miles))
- j. Contract Number
- k. Paint Color & 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 latest edition. Section 1.3.5 Vehicle Information Data Plate. A single plate that combines or contains the information required for both plates is acceptable.

Environmental conditions. A winterization system is not required for this vehicle. The vehicle shall operate in a local temperature range between 33 degrees F and 120 degrees F ambient temperature.

Reduction of potential foreign object damage. 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.

Vehicle Mobility

Operating terrain. 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.

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

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

Cornering stability. The fully loaded vehicle will be stable in accordance with NFPA 414 when tested in accordance with NFPA 414.

Weights and dimensions

Overall dimensions. 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 /Dimensions	1500 Gallon
Length (inches/cm)	433/1100
Width (inches/cm, excluding mirrors)	124/315
Height (inches/cm)	154/391

Angles of approach and departure. The fully loaded vehicle will have angles of approach and departure of not less than 30°.

Field of vision. The vehicle will have a field of vision in accordance with NFPA 414.

Mirrors. Combination flat and convex outside rearview mirrors will be installed on each side of the cab. The flat mirrors will be of the motorized 4-way remote control type, providing not less than 60° horizontal rotational viewing range and at least 60 square inches each. 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 each.

The vehicle shall 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.

Chassis and vehicle components

Engine. 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. A continuous duty lubrication system is required.

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

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

An electronically controlled engine governor which will not adversely affect engine or pump performance shall be provided and be set to limit engine speed so that it shall not exceed the maximum rpm recommended by the engine or driveline component manufacturers.

An engine high idle control shall be provided to maintain the engine idle at approximately 1200 RPM when activated. This control shall be safety interlocked to activate only after the transmission has been placed in the neutral position and parking brake has been set.

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

Engine cooling system. 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." An engine coolant preheating device shall be provided. It shall have sufficient capacity to maintain the engine at the manufacturer's recommended temperature for rapid starting and immediate high initial engine performance. A separate 110-volt inlet connection shall be provided dedicated to the engine block preheater located at the rear of the vehicle.

Fuel system. The fuel system will be in accordance with NFPA 414. A fuel/water separator with a thermostatically controlled heating element shall be provided.

Fuel priming pump. 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.

Fuel tank. 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 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".

Exhaust system. 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.

Transmission. A fully automatic transmission will be provided. The transmission will be in accordance with NFPA 414. The transmission shall be compatible and certified for use with the electronically controlled engine.

Driveline. 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. The transfer case shall incorporate a drive to the front and rear axles, which will not allow the vehicle to stall as long as the tire(s) of any axle have traction.

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

Suspension. 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.

Tires and wheels. 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. Each tire assembly, including the spare tire and wheel assembly, shall be equipped with a beadlock system to assure the tire is secured to the rim for operation at lower tire inflation settings. A beadlock compression tool shall be provided.

Towing connections. 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. Two towing shackles shall be provided for use with the tow eyes at the front and rear of the frame. The maximum towing capacity of the vehicle will be labeled on the vehicle dash board and at the towing device location. Two towing shackles shall be provided for use with the tow eyes at the front and rear of the frame.

Brake system. 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.

Air dryer. 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.

Compressed air shoreline or vehicle-mounted auxiliary air compressor. 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 110volt 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.

Steering. The vehicle will be equipped with power steering. Rear-wheel steering technology is not an approved vehicle option.

Steering Effort. The steering system performance will be in accordance with NFPA 414.

Turning Diameter. 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.

License plate bracket. 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 firefighting systems.

Cab. 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.

Windshield and windows. 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.

Cab interior sound level. The maximum cab interior sound level will be in accordance with NFPA 414.

Instruments and controls. All instruments and controls will be illuminated and designed to prevent or reduce 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.

Windshield deluge system. 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.

Forward Looking Infrared (FLIR). A forward-looking infrared (FLIR) camera and in-cab 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.

Climate control system. 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. The air conditioning system shall be driven from the vehicle engine. The system shall be integral with the vehicles heater/defroster unit, utilizing the same set of controls and vents. The system(s) shall be charged with 134A refrigerant. A minimum of 60,000 btu cooling capacity is required to sustain a comfortable operating temperature within the cab during the high ambient (120 degrees or greater) summertime climate in the Phoenix/Mesa metro-plex. This requirement may be met either with a single, or dual dash mount AC unit or with the aid of an auxiliary roof mount unit.

Seats. 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 as well as two additional crew seats will be a fixed (non-suspension) type (total of four seats). 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). Each crew seat shall be stain resistant fabric.

Seat Options. 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		X	
Turret		X	
# 3		X	
# 4		X	

Windshield wipers and washer. 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.

Warning signs. 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.

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

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

Body, Compartments, and equipment mounting Body.

The vehicle will have a corrosion-resistant body.

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

Compartment doors. 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.

Scuff plates. Replaceable scuff plates will be provided at each compartment threshold to prevent body damage from sliding equipment in and out of the compartments. The scuff plates will be securely attached to the compartment threshold but will be easily replaceable in the event of damage.

Drip rails. Drip rails will be provided over each compartment door.

Shelves. 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.

Drainage mats. 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.

SCBA storage tubes. 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. Vendor shall confirm sizes with Airport.

Ladder, handrails, and walkways. 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.

Ancillary equipment. 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. Offeror may include a proposal and pricing for ancillary equipment to be procured under a separate purchase order (See Attachment H). Pricing is to be listed in Attachment D, Price Page. PMGAA is under no obligation to purchase such ancillary equipment from Offeror.

NOTE: Equipment funding will be obtained as a separate contract under the provisions of AC 150/5210-14, Aircraft Rescue and Fire Fighting Equipment, Tools, and Clothing.

Agent system

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

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

Tank to pump connection. A check valve and shutoff valve will be provided in each tank to pump line.

Piping, couplings, and valves. All agent system piping will conform to NFPA 414 criteria.

Overheat protection. 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.

Pressure relief valves. The agent system will be equipped with pressure relief valves in accordance with NFPA 414.

Drains. The agent system will be equipped with a drainage system in accordance with NFPA 414.

Water tank. The vehicle will have a water tank with a manufacturer certified minimum capacity of at least 1500 gallons.

Water tank construction. The water tank will be constructed of UV protected polypropylene. All materials used will be capable of storing water, foam concentrate, and water/AFFF solutions.

Water tank overhead fill cover and drain. 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.

Water tank overflow system and venting. 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 overflow. 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.

Water tank top fill opening. 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.

Water tank fill connections. The water tank will incorporate National Hose thread connections and will be in accordance with NFPA 414.

Foam system. (**NOTE:** *The requirements of section 3.6.3 of the Advisory do not apply to pre-mixed pressurized foam systems.*)

Foam concentrate tank. 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).

Foam tank construction. The foam tank will be constructed of polypropylene material. All materials used will be capable of storing foam concentrate.

Foam tank drain. 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.

Foam tank top fill trough. 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.

Foam tank fill connections. 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 chrome connection with 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 ¼-inch 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.

Foam tank vent and overflow system. 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 overflow. 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.

Foam transfer pump. A foam pneumatic diaphragm 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.

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

Foam concentrate piping. 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.

Foam proportioning system. The vehicle will have a foam proportioning system for Aqueous Film-Forming Foam (AFFF) (whether 3- or 6-percent foam concentrate) and set for 3% in accordance with NFPA 414. A fixed orifice plate will be provided for 6 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.

Primary vehicle turret. The vehicle will be equipped with a standard roof-mounted turret, to serve as the primary source of agent delivery, as specified below:

Roof turret. The roof turret will be mounted near the front of the roof of the vehicle. 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 roof turret will be power operated; power controls will be positioned for use by the driver and the crew member seated to the right of the driver. The type of nozzle or turret drain will be per the manufacturer's recommendation.

Bumper turret. The vehicle will be equipped with a joystick controlled, constant flow, non-air-aspirating, variable stream type: fixed mount low volume single rate (minimum 250 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. Two 200 foot, 1¾-inch pre-connected woven jacket handline(s), with a 1½-inch control valve and a pistol grip nozzle, will be located on (or accessible from) the left 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 the handline will be provided for operation by both the driver and the turret operator.

A minimum of four (4) undertruck nozzles shall be supplied that will provide a sufficient foam\water combined spray pattern that will cover the total undertruck area as well as the inner sides of the wheels and tires. On/Off controls shall be provided in the cab and at the exterior of the vehicle on each side of the cab.

Electrical systems and warning devices.

The vehicle will have a 12-volt or 24-volt electrical and starting system in accordance with NFPA 414.

Alternator. 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.

Batteries. 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.

Battery compartment. The batteries will be enclosed in a weatherproof enclosure, cover, or compartment and be readily accessible.

Battery charger or conditioner. 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 AC 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.

Electromagnetic interference. The vehicle electrical system will be in accordance with SAE J551-2 for electromagnetic interference.

Work lighting.

Cab interior lights. 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.

Compartment lights. 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.

Ladder, step, walkway, and area lights. 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.

Spot/Floodlights. Two spot/floodlights will be attached at the end of the primary turret 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.

Flood Lights. 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 protect 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.

Scene Lights. 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.

Audible warning devices.

Siren. 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.

Horn. 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.

Emergency warning lights. 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.

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

Headlight flashing system. 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.

Radio circuit. 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.

Power receptacles.

Primary power receptacles. 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 twist-lock connection. These outlets will be powered by the generator.

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

Cable reel. The vehicle will be equipped with an electrical cable reel, located within a compartment. The reel will be equipped with 200 feet of 20amp, 600volt, 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.

Auxiliary generator. A minimum 10 kilowatt (kW) (continuous rating), 120/240-volt, 60 hertz, diesel, hydraulic, or split shaft Power Takeoff (PTO)-driven generator will be provided.

Line voltage electrical system.

Electrical shoreline connection. 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.

Air hose reel. 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. hose line. A 3/8 inch National Pipe Taper (NPT) fitting and female style quick disconnect will be connected to the end of the hose line. A four-way roller guide will be provided for the hose reel to prevent hose chafing and kinking. The hose line 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.

Quality of Workmanship.

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.

5. REGULATORY REQUIREMENTS

Recoverable Materials. 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.

Green Procurement Program. 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.

6. PRODUCT CONFORMANCE PROVISIONS

Classification of inspections.

The inspection requirements specified herein are classified as follows:

- a. Performance inspection
- b. Conformance inspection

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

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

Product conformance. The products provided will meet the performance characteristics of this Procurement Specification (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.

Technical proposal. 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.

Inspection requirements.

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

Test rejection criteria. 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 firefighting system and sub-systems.

Detailed inspection requirements.

Examination of product. All component manufacturers' certifications, as well as the prototype and production/operational vehicle testing outlined in Table 1, Vehicle Test Data, below, 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 or third party certification for any/all prototype and production/operational vehicle testing performed prior to delivery which proves that the vehicle meets the performance parameters of NFPA 414.

Table 1. Vehicle Test Data

<i>NFPA 414 paragraph</i>	<i>Test</i>
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: <i>With the modification that the instrumentation must be a GPS-based electronic data collection system.</i>
(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: <i>With the modification that the evasive maneuver / double-lane change test must be conducted at 35 mph (56 kph).</i>

<i>NFPA 414 paragraph</i>	<i>Test</i>
(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
(6.3.16)	Flushing System Test
(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

7. PACKAGING

Preservation, packing, and marking will be as specified in this RFP and Attachment C of this RFP, contract or delivery order.

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.

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.

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.

8. TRAINING

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 for training. This is considered sufficient time for the purchaser 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.

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 firefighting and vehicle operating systems. Prior to leaving the vehicle, the technician should review the maintenance instructions with the purchaser's personnel to acquaint them with maintenance procedures as well as how to obtain support service for the vehicle.

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.

9. REFERENCED DOCUMENTS

Source of documents.

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

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

National Fire Protection Association (NFPA): 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)

Federal Aviation Administration (FAA): 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, ATOW 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/techops/atc_facilities/cm/cm_documentation/

Attachment D
Price Page

Grand Total for each item is to be shown on this page.

Item	Price
New Aircraft Rescue & Fire Fighting Vehicle	\$ _____
Manuals	\$ _____
Standard Warranty (as stated in Attachment E)	\$ _____
ADD ALTERNATE, Extended Warranty	\$ _____
ADD ALTERNATE, Ancillary Equipment	\$ _____
Shipping / Delivery	\$ _____
Sales Tax	\$ _____
Total WITHOUT ADD ALTERNATES	\$ _____

Prompt Payment Discount

The price(s) quoted herein can be discounted by _____ % if payment is made within _____ days.

Parts Discount

PMGAA price for purchasing parts direct from the Offeror shall be discounted by _____ % of the current list price for parts published by Offeror.

Exceptions / Clarifications of Bidder/Offeror:

Delivery Time Estimate of ARFF vehicle to PMGAA:

Proposal Certification

By my signature, I certify that I am authorized to bind this firm/individual to provide the services accepted herein, in compliance with the scope of work, technical specifications and other terms and conditions in this Invitation for Bid at the price provided on this Price Page.

Printed Name

Signature

Attachment G
Manufacturer's Recommended Service Program & Costs

Offeror shall provide the manufacturer's recommended maintenance program for the proposed ARFF vehicle for the first ten years of ownership. The program will include a description of maintenance services recommended by the manufacturer and a corresponding **total** price for all **parts** required for each service. Do not include each individual part for each service or any labor costs.

Oil changes shall be based on a time period rather than miles driven due to the climate, dust, etc. of Arizona.

Offeror shall list each year's recommended services on a single page, for a total maximum of 10 pages for this section.

Attachment H Ancillary Equipment

The Offeror may or may not include an ADD ALTERNATE price for the following auxiliary equipment, under separate purchase. PMGAA is under no obligation to purchase any or all equipment listed below.

- 2 Axe, rescue, large, non-wedge type with serrated edge, and 36-inch fiberglass handle; to include scabbard and pick head cover
- 1 Blanket, fire resistant, with a storage pouch
- 1 Chock set, Aluminum, 8 inch (total of 2)
- 1 Cutter, bolt 24 inch
- 1 Cutter, aircraft cable
- 1 Crowbar, pinch point, (60 in.)
- 1 Hammer, sledge, 8 lb.
- 1 Rope line, 5/8 inch, 100 foot, with 3-prong salvaging hook
- 1 Ladder, Little Giant 26 ft., mounted on a gantry system at the rear of the vehicle to be accessible from ground level
- 3 Rechargeable flashlights mounted in the cab, Streamlight model SL-45.
- 1 Medical kit, first aid/first responder, minimum of 36 units
- 1 Pike pole, 12 ft, w/fiberglass handle
- 1 Rescue kit, hydraulic, 10 ton (manual type without auxiliary power source)
- 1 Rescue kit, pneumatic air hammer (Ajax 711, or equal), complete with spare air cylinder
- 1 Saw, powered rescue, 14 inch, complete with two (2) spare blades
- 1 Skin penetrator (piercing applicator), manual type, for water or foam application
- 1 Wrench, adjustable, 8 inch
- 3 Axe, hand, with sheath and insulated handle
- 1 Chisel, cold, one inch
- 1 Hacksaw, heavy duty, with six (6) spare blades
- 1 Hammer, 1-1/4 pound
- 1 Hammer, 4 pound
- 3 Harness cutting tools, V-blade knife with spare blades
- 1 Pliers, side cutting, 7 inch
- 1 Pliers, slip joint, 10 inch
- 3 Plug, fuel line (hardwood)
- 3 Plug, fuel line (neoprene)
- 1 Screwdriver set—three (3) Phillips and three (3) straight blade
- 1 Shears, sheet metal, straight cut
- 1 Bar, 36" wrecking, w/gooseneck
- 1 Wrench, vice grip, 10 inch (24.5 cm)

Additional tools and equipment required to meet local operational needs

- 1 Adjustable hydrant wrench w/bracket
- 2 2-1/2 in. spanner wrenches w/bracket
- 2 1 in. spanner wrenches w/bracket
- 1 Tool box, or a canvas tool roll (for loose hand tools noted above)
- 1 20-pound Purple-K fire extinguisher, with mounting bracket
- 1 15-pound Halotron I fire extinguisher, with mounting bracket
- 2 Portable 500-watt floodlights; Circle D model 150 or equal, with mounting brackets. A 15 ft. Pigtail connection shall also be provided to interface the two portable lights with the vehicle mounted cord reel

- 1 Portable 110 VAC, drum foam transfer pump, Sethco or equal, rated at a minimum discharge rate of 30 gpm with a 10-foot head. A switch to control the operation of the motor shall be installed on the pump within easy reach of the operator. A minimum of 8-foot section of hose with the necessary fittings to match the foam fill connection on the vehicle shall be provided.

- 1 Pre-installed radio equipment
ICOM IC-A110, 20 channel programmable VHF aviation band radio, complete with antennae, mic, and external speaker

- 1 APX7500 Dual Band MID Power radio

A Setcom 1300 headset/intercom system, with headsets for four crewmembers interfaced with the aviation band and fire department radios. The driver and turret operator's headsets, shall have transmit, receive and intercom capability. The third and fourth crewmember shall have receive and intercom only, no transmit capability.