Public Works and Government Services Canada

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SOLICITATION AMENDMENT
MODIFICATION DE L'INVITATION

The referenced document is hereby revised; unless otherwise indicated, all other terms and conditions of the Solicitation remain the same.

Ce document est par la présente révisé; sauf indication contraire, les modalités de l'invitation demeurent les mêmes.

Comments - Commentaires

Title - Sujet TOWABLE HYDRANT CART	
Solicitation No. - N° de l'invitation W8476-155252/A	**Amendment No. - N° modif.** 002
Client Reference No. - N° de référence du client W8476-155252	**Date** 2015-05-05
GETS Reference No. - N° de référence de SEAG PW-$$HP-912-67097	
File No. - N° de dossier hp912.W8476-155252	**CCC No./N° CCC - FMS No./N° VME**
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2015-05-26	**Time Zone** **Fuseau horaire** Eastern Daylight Saving Time EDT
F.O.B. - F.A.B. **Plant-Usine:** ☐ **Destination:** ☑ **Other-Autre:** ☐	
Address Enquiries to: - Adresser toutes questions à: Pearson, Neil	**Buyer Id - Id de l'acheteur** hp912
Telephone No. - N° de téléphone (819) 956-3976 ( )	**FAX No. - N° de FAX** (819) 953-2953
Destination - of Goods, Services, and Construction: **Destination - des biens, services et construction:**	

Vendor/Firm Name and Address
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Instructions: See Herein

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Delivery Required - Livraison exigée	**Delivery Offered - Livraison proposée**
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Name and title of person authorized to sign on behalf of Vendor/Firm (type or print) **Nom et titre de la personne autorisée à signer au nom du fournisseur/ de l'entrepreneur (taper ou écrire en caractères d'imprimerie)** **Signature** **Date**	

Issuing Office - Bureau de distribution

Vehicles & Industrial Products Division
11 Laurier St./11, rue Laurier
7A2, Place du Portage, Phase III
Gatineau, Québec K1A 0S5

Canada

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This solicitation amendment 002 is raised to address bidder's questions.

Question 1.
Para 2.2- **Other Publications**
The latest Canadian standard is CSA-B836-2014. Should we still use the older obsolete standard refereed CSA-B836-05?

Answer.
The latest version of the standard CSA-B836-14 shall be used. The purchase description is amended to reflect this change at Para 2.2 and Para 3.3.1. See attached revised Annex "B" purchase Description.

Question 2.
Para 3.14.4 - **Filtration**
We would substitute the Velcon HVA-2838M150 Filter separator with our HCS-D-738-236 Horizontal Filter Separator that is rated for 2,200 LPM and qualified to EI-1581 5th Edition Category M+100 F37 Fuel.

Answer.
No. Requirement identified by the word '***shall***' is mandatory. Deviation will not be permitted. The Velcon filter separator is identified as a mandatory requirement in order to maintain refueller fleet commonality.

Question 3.
Para 3.16 (b) - **Filter Differential Pressure**
We would like to substitute the Gammon gauge to the more rugged Schultz Gauge differential pressure gauge.

Answer.
This is a ***shall***$^{(E)}$ requirement, therefore equivalent product can be offered. Please refer to Solicitation Part 3, Section I *Technical Bid*, Article 2.1 titled *substitutes and alternatives* for information that is required to be submitted in order for product equivalency to be evaluated.

Question 4.

Is there a possibility of an extension to the closing date by 7-10 days?

Answer.
No. The closing date is now set to Tuesday May 26th.

ALL OTHER TERMS AND CONDITIONS REMAIN THE SAME

Défense nationale National Defence

5 May 2015 – Revision 1

AVIS

La présente documentation a été revue par le responsable technique et ne contient pas de marchandises contrôlées.

NOTICE

This documentation has been reviewed by the technical authority and does not contain controlled goods.

Purchase Description
For
Towable hydrant cart

1. SCOPE

1.1 **Scope** - This Purchase Description covers the requirements for towable hydrant cart. The towable hydrant cart will incorporate filtration and metering equipment.

1.2 **Instructions** - The following instructions ***shall*** be used to interpret this specification:

(a) Requirements, which are identified by the word "***shall***", are mandatory. Deviations will not be permitted;

(b) Requirements identified by "***shall***$^{(E)}$" are mandatory. The Technical Authority will consider substitutes/alternatives for acceptance as an Equivalent;

(c) Requirements identified with a "will" define actions to be performed by Canada and require no action/obligation on the Contractor's part;

(d) Where "***shall***", "***shall***$^{(E)}$", or "will" are not used, the information provided is for guidance only;

(e) In this document "provided" ***shall*** mean "provided and installed";

(f) Where technical certification is required, a copy of the certification or an acceptable **Proof of compliance** ***shall*** be provided upon request, at no cost to Canada;

(g) Metric measurements ***shall*** be used to define the requirement. Other measurements are for reference only and may not be exact conversions; and

(h) Dimensions stated as nominal ***shall*** be treated as approximate dimensions. Nominal dimensions reflect a method by which materials or products are generally identified for sale commercially, but which differ from the actual dimensions.

BPR : DAPVS 4 – OPI : DSVPM 4
Publiée avec l'autorisation du chef d'état-major de la Défense
Issued on Authority of the Chief of the Defence Staff

Canada

1.3 **Definitions** - The following definitions apply to the interpretation of this Purchase Description:

(a) **"Technical Authority"** - The government official responsible for technical content of this requirement;

(b) **"Cart"** - refers to the chassis, and parts provided with the frame before the addition of the required equipment; and

(c) **"Cart/equipment"** - refers to the completely hydrant cart with all related parts and equipment installed.

2. APPLICABLE DOCUMENTS

2.1 Government Furnished Documents

C-01-100-100/AG-005
Acceptance of Commercial and Foreign Government Publications as Adopted Publications

D-01-100-200/SF-002
Preparation of Data Summaries for Commercial Vehicles and Equipment

2.2 Other Publications - The following documents form part of this purchase description. Web sites for the organization are given when available. Effective documents are those in effect on date of manufacture. Sources are as shown:

CSA/CSA B836-14 – Storage, Handling and Dispensing of Aviation Fuels at Aerodromes
5060, spectrum Way, bureau 100
Mississauga (Ontario)

EI Standard 1581 - Specifications and Qualification Procedures for Aviation Jet Fuel Filter/Separators
EI Standard 1529 - Aviation Fuelling Hose and Hose Assemblies
EI Standard 1560 - Recommended practice for the operation, inspection, maintenance and commissioning of aviation fuel hydrant systems and hydrant system extensions

API/IP STD 1542 – Identification Markings for Dedicated Aviation fuel Manufacturing and Distribution Facilities, Airport Storage and Mobile Fuelling Equipment.
American Petroleum Institute (API)

ATA 103 - Standards for Jet Fuel Quality Control
Air Transport Association
1301 Pennsylvania Ave., NW, Suite 1100
Washington, DC 20004

MS24484 - Adapter, Pressure Fuel Servicing,
Nominal 2.5-Inch Diameter
IHS Inc.
www.ihs.com

NFPA 407 - Standard for Aircraft Fuel Servicing
National Fire Protection Association (NFPA)
1 Batterymarch Park
Quincy, Massachusetts 02169-7471

SAE Handbook
Society of Automotive Engineers Inc.
400 Commonwealth Dr.,
Warrendale, Pennsylvania 15096
http://www.sae.org

Commercial Item Description A-A-50696 - Reels, Static Discharge, Grounding, 50 and 75 Foot Cable Lengths
GSA - Specification Section
470 L'Enfant Plaza
Suite 8100
Washington, DC 20407

R.S., 1985, c. W-6 - Weights and Measures Act
Measurement Canada
Standards Building
151 Tunney's Pasture Driveway
Ottawa, Ontario, K1A 0C9
http://www.ic.gc.ca/eic/site/mc-mc.nsf/eng/home

3. REQUIREMENTS

3.1 Standard Design

(a) **Latest Model** - The cart/equipment ***shall*** be the manufacturer's latest model;

(b) **Industry Acceptability** – The cart/equipment ***shall*** have demonstrated industry acceptability by having been manufactured and sold commercially for at least 2 years, or, ***shall*** be manufactured by a company that has at least 5 years experience in design and manufacturing of towable hydrant cart/refueller of equivalent or greater complexity;

(c) **Engineering Certification** - The cart/equipment ***shall*** have engineering certification available for this application from the original manufacturers of major equipment systems and assemblies;

(d) **Regulations** - The cart/equipment ***shall*** conform to all applicable laws, regulations and industrial standards governing manufacture, safety, noise levels and pollution in effect in Canada at the time of manufacture;

(e) **Published Ratings** – The cart/equipment ***shall*** not have system and component capacities greater than their published ratings; and

(f) **Standard Components** – The cart/equipment ***shall*** include all components, equipment and accessories normally supplied for the model offered, although they may not be specifically described in this Purchase Description

3.1.1 Design Principles

(a) **Standard Components** - Commercially available standard parts complying with commercial standards ***shall*** be used wherever possible;

(b) **Interchangeability** - All components, assemblies, and sub-assemblies used in the construction ***shall*** be designed and manufactured to dimensional tolerances, which will permit interchangeability and facilitate replacement of parts;

(c) **Spare Parts** - The manufacturer ***shall*** select components readily available for a minimum period of fifteen (15) years from the date of manufacture;

(d) **Maintainability** - All maintenance and repair tasks, especially routine operator maintenance, ***shall*** be easy to perform with a minimum of special tools and skills; and

(e) **Modularity** - Major assemblies ***shall*** be easily disconnected and removed from the cart without the necessity for extensive disassembly of components.

3.2 Operating Conditions

3.2.1 **Weather** - The cart/equipment ***shall*** operate under extremes weather conditions from -40 to 45° C. The cart/equipment ***shall*** be design for outdoor storage.

3.2.2 **Terrain** – The cart/equipment ***shall*** be capable of being operated on airport runways.

3.3 Safety Standards

3.3.1 **Safety Regulations** – The cart/equipment ***shall*** be designed and manufactured in accordance with CAN/CSA B836-14 and meet the requirements of NFPA 407, EI 1581, EI 1529 and EI 1560 standards.

3.3.2 **Human Engineering and Safety**

(a) The CF population of Users ***shall*** be able to safely use and operate the vehicle / equipment;

(b) The cart/equipment ***shall*** have all entry and exit points equipped with handles and steps suitably positioned, to accommodate CF Users having anthropometric characteristics ranging from 95th percentile male characteristics to 5th percentile female characteristics under all operating conditions; and

(c) The cart/equipment ***shall*** be equipped, where required for operator safety, with safety features such as warning and instruction plates, non-slip walking surfaces and heat shields.

3.4 Weight Ratings – The hydrant cart ***shall*** have the following:

(a) **Gross Vehicle Weight** – The fully laden hydrant cart ***shall*** have a maximum weight less or equal to 5,000 lbs; and

(b) **Gross Vehicle Weight Rating (GVWR)** – The hydrant cart ***shall*** have a GVWR as published in the manufacturer's literature and engineering data which is at least equal to the total of the load of the completed cart including any special equipment and all lubricants and fluids.

3.5 Vehicle Delivery Condition – The hydrant cart ***shall*** be delivered to destination in a fully operational condition (serviced and adjusted) and ***shall*** be cleaned. If the vehicle requires assembly at destination, the Contractor ***shall*** be responsible for all manpower and equipment to perform assembly. The consignee will provide the area required for assembly.

3.6 Chassis - The chassis ***shall*** be the manufacturer's standard recommended and suitable for a cart of this type and size and for the conditions specified in section 3.4

3.7 Body – The following ***shall*** be provided

(a) **Drawbar** - A drawbar with the manufacturer's recommended design and capacity;

(b) **Lunette** – A lunette with an internal diameter of 7.6 cm (3 inches) conforming to SAE Recommended Practice J847. The lunette ***shall*** match the pintle hook of the towing vehicle which is a Holland model PH 300 hitch;

(c) **Safety chains;**

(d) **Licence Plate Holder** – One licence plate holder shall be provided at the rear of the trailer**;**

(e) **Wheel chocks** – Four wheel chocks shall be provided, including on board storage; and

(f) **Bumper Guarding**

3.7.1 **Body Shroud** – A weather tight body shroud ***shall*** be provided to enclose the filtration and metering equipment and all other components specified in this Purchase Description. The shroud:

(a) ***Shall*** be design in accordance with all safety regulations specified in section 3.3.1;

(b) ***Shall*** be made of aluminum and elastomeric seals ***shall*** be used to prevent the ingress of dust, debris and water;

(c) ***Shall***$^{(E)}$ include hinged door(s) to provide access to the filtration and metering equipment, hoses, etc. The door(s) shall be constructed with corrosion resistant hinges, lockable latches, weatherproof and waterproof seal and be equipped with rubber bumpers to prevent door contact with the shroud. The doors ***shall*** include a mechanism to keep the doors open when in use.

3.8 **Parking Brake** – The braking system ***shall*** be the manufacturer's standard recommended and suitable for a towable hydrant cart of this type and size. The parking brake ***shall*** operate independently of the prime mover.

3.8.1 **Brake Interlock** - A brake interlock ***shall*** be provided to prevent the vehicle from being moved when:

(a) Any connection is made to the hydrant coupler; and

(b) Any refuelling nozzle is removed from the storage hook.

3.9 **Tires** – Tires ***shall*** be suitable for use in the operating conditions described in section 3.2. Tires ***shall*** not have loads exceeding those recommended by the tire manufacturer;

3.10 **Lighting** – All lighting ***shall*** be LED if possible. The lighting system ***shall***:

(a) Be a standard commercial 12 Volts lighting system;

(b) Include lighting in all cabinets and storage compartments;

(c) Include two flood/working lamps, one at the front of the cart and one at the rear, for night-time operations, exact locations to be determined at preproduction meeting; and

(d) Include a low profile amber strobe light.

3.11 **Air Compressor** – An air compressor ***shall*** be provided and ***shall***$^{(E)}$ be electric. The air compressor ***shall*** be the manufacturer's recommended and suitable for this type of application.

3.12 **Power System** – A power system designed with sufficient capacity to concurrently charge the battery and operate all electrical components ***shall*** be provided. The following items ***shall***$^{(E)}$ be included in the power system:

(a) A diesel engine ***shall*** be provided. A fuel tank with sufficient capacity for 4 hours of continuous running ***shall*** be provided. The fuel tank ***shall*** be easily accessible to the operator at ground level;

(b) A deep cycle battery with sufficient capacity to power all electrical components ***shall*** be provided. The battery ***shall*** have a battery box and be placed inside the body shroud; and

(c) All required connections and controls for the operation of the power system. All controls ***shall*** be easily accessible to the operator at ground level.

3.13 **Equipment Performance** – The filtration and metering system and all related equipment ***shall*** meet the requirements detailed in the current issue of NFPA 407, EI 1581, EI 1529 and EI 1560 and CSA B836-05.

3.13.1 **Fuelling Systems** - The high-pressure underwing system ***shall*** provide incrementally or infinitely variable fuelling flow up to a maximum of 2,200 litres (581 US gallons) per minute. The pressure at the outlet of the nozzle ***shall*** be set to a maximum of 45 psi (310 kPa).

3.13.2 **Fuel Types** – The filtration, metering, delivery and piping equipment supplied ***shall*** be compatible with NATO F-34 (JP-8) and NATO F-37 (JP-8+100) fuel.

3.14 Equipment - All equipment ***shall*** meet the requirements detailed in the current issue of NFPA 407, EI 1581, EI 1529 and EI 1560 and CSA B836-05.

3.14.1 **Piping** – All product piping ***shall*** be either aluminum or stainless steel. Aluminum alloy is desired wherever possible. Connections ***shall***(E) be made by Victaulic couplings or companion flanges. Dissimilar metals ***shall*** be protected from galvanic corrosion.

3.14.2 **Hydrant Interface** – The system ***shall*** be capable of sustaining a maximum flow rate up to 2,200 litres per minute (581 US gallons per minute) at a maximum pressure of 91 psi (627 kPa).

3.14.3 **Hydrant Interface Components** - The following ***shall(E)*** be provided:

(a) **Reel** - A hose reel with a minimum capacity of 5.62 metres (25') of 76 mm (3") inside diameter hard walled hose ***shall(E)*** be provided. The reel ***shall***(E) be electric operated, have a manual hand crank, and be equipped with a brake and locking device. If the crank is removable, it ***shall***(E) have a storage provision near the reel;

(b) **Hose** - A 5.62 metres (25') of Continental 76 mm (3") inside diameter hard walled hose as described on ContiTech data sheet 2331200 ***shall***(E) be supplied complete with all required fittings. The hose ***shall*** be installed on the hose reel;

(c) **Hydrant Coupler** - The hydrant coupler ***shall***(E) be Carter Model 64800DFY2H air over fuel or Whittakerr F239MHJ air over fuel. *A* protective cap and lanyard ***shall*** be provided to protect the adaptor when not in use

3.14.4 **Filtration** - The fuelling system ***shall*** be equipped with a filter-separator. The filtration system ***shall*** be designed, manufactured, and qualified in accordance with the latest requirements of the Energy Institute SPEC 1581, 5th Edition, Category M and M100, using a single make/model for the coalescer, separator, and if applicable, particulate filter.

(a) The filter vessel ***shall*** be Velcon model HVA 2838M150;

(b) The filter elements ***shall*** be for stage 1 Velcon model I-638A4TB-CAT (NSN 4330-20-006-9352) and for stage 2 Velcon model SO-636CM (NSN 4330-01-544-3410);

(c) Fuel sampling ports ***shall*** be provided for quality control checks at the inlet and outlet of the filter vessel and next to the recirculation adaptor. The ports ***shall*** be ¼" pipe diameter, welded into the side of the main fuel pipe. The ports ***shall***(E) be valved and incorporate quick connect couplings compatible with a match weight monitor sampling kit. The couplings ***shall***(E) be protected by dust covers retained by lanyards;

(d) All filter elements ***shall*** be compatible with fuel containing anti-icing additive;

(e) One spare set of filter elements ***shall*** be delivered with each cart; and

(f) The filter vessel ***shall*** be cleaned and new filters ***shall*** be installed prior to delivery.

3.14.5 **Additive Injection System** – A fluid powered additive injection system ***shall***(E) be provided, to inject the high temperature thermal stability additive NATO S-1749, known commonly as "+100", at a rate of 256 parts per million parts fuel. The additive injection system ***shall***(E) be Hammonds 800 series.

(a) The additive reservoir ***shall***:

i Hold sufficient additive to treat at least 120,000 litres (31,700 US gallons) of fuel;

ii Be sealed from the atmosphere when the system is not in use. Replacement air to the reservoir ***shall***(E) be dried by desiccant while additive is being drawn. The desiccant product ***shall***(E) use tale colour change to indicate required replacement; and

iii Be identified with painted letters "NATO S-1749 OTAN".

(b) An additive low-level warning light ***shall*** be installed on the control panel. The low-level warning light ***shall*** turn on when there is just enough additive in the reservoir to treat one Chinook product tank full of fuel.

(c) The system default ***shall*** be either on or off. The default position will be determined at the Pre-Production Meeting. The system ***shall*** reset after each fuelling.

3.14.6 **Delivery Equipment**

(a) **Reel** – The hose reel with a minimum capacity of 16.76 metres (55') of 76 mm (3") inside diameter hard walled hose ***shall*** be provided. The reel ***shall***(E) be electric operated, have a manual hand crank, and be equipped with a brake and locking device. If the crank is removable, it ***shall***(E) have a storage provision near the reel;

(b) **Underwing Hose** – 16.76 metres (55') of Continental hard walled hose as described on ContiTech data sheet 2331200 ***shall***(E) be supplied complete with all required fittings. The free-end of the hose ***shall*** have a 63 mm (2½") female drybreak coupling and dust plug installed. The hose ***shall*** be installed on the pumping system reel. The hose ***shall*** have the nominal diameter of a 63 mm (2½") interior diameter hard walled hose;

(c) **Underwing Nozzle** – One underwing fuelling nozzle ***shall*** be provided, with a 100 mesh screen with glass inspection port, protective cap, grounding clamp part #ALS-10A (NSN 5999-00-134-5844), D-1 Inlet coupling, 45 psi pressure regulator, dry break adaptor, and a strainer ball valve to allow ease of strainer inspection without fuel spillage. Model Carter Ground Fuelling Division 64349 or CLA-VAL 341GF is suggested for this application.

3.14.7 **Other Equipment** - The following equipment ***shall*** be supplied:

(a) **Nozzle Hooks** – Nozzle storage hooks with brake interlock ***shall*** be mounted at each of the fuelling hose reels. The nozzles ***shall*** not require removal from the hose prior to placement into the respective hook;

(b) **Spill Kit** - A fuel spill kit ***shall*** be provided. The spill kit ***shall***(E) be located in an easily accessible dedicated weatherproof aluminum storage box with a non-locking door. The spill kit ***shall***(E) be AF Pollution Abatement Systems Part AF16. The storage box door ***shall*** be labelled in 50 mm (2") high black text, "Spill Kit, Trousse de déversement";

(c) **Fire Blanket** - A fire blanket ***shall*** be provided. The blanket ***shall***(E) be Steel Fire Equipment FB64. The blanket ***shall*** be located in an aluminum storage canister with a self-latching door. The door ***shall*** not interfere with removal of the blanket. The canister ***shall*** be weatherproof, painted fire engine red, and labelled in red on a white background with letters 50 mm (2") high, "Fire Blanket, Couverture Anti-Feu";

(d) **Fire Extinguishers** – Two fire extinguishers ***shall*** be provided as per CSA B636-05 and NFPA 407. The extinguishers ***shall*** be secured with heavy duty mounting bracket. The extinguishers ***shall*** be mounted one on each side of the vehicle in a readily accessible location.

3.15 **<u>Controls</u>** – Controls ***shall*** be permanently marked to identify and show the function of each control lever or switch. Markings/instructions ***shall*** be in English and French or international symbols as defined by SAE J1362. All controls ***shall*** be properly sized and arranged to allow personnel wearing arctic mittens to easily operate the equipment. The following controls ***shall*** be included:

(a) **Deadman** - A control ***shall*** be used to initiate or terminate fuelling operations. The deadman ***shall*** be designed to require user actuation when ready to proceed and be deactivated at all other times. The deadman ***shall*** operate as specified in ATA 103. A spring-retracting reel ***shall***(E) be provided for the electrical cable. The deadman cable ***shall*** be at least 20 metres (65') long; and

(b) **Emergency Shut-Off Controls** - Two emergency shut-off controls located on each side of the cart ***shall*** be provided. The shut-off controls shall be located on each side of the cart and at a height and location for convenient use and high visibility. A red circle measuring 150 mm (6") in diameter ***shall*** be provided around the controls, with the following painted in black letters below: "Push in Case of Emergency, Pousser en cas d'urgence".

3.16 **<u>Instruments</u>** –The instruments ***shall*** be labelled. The following instruments ***shall*** be included:

(a) **Product Meter/Register** - All product fuelled through the system ***shall*** be filtered and then metered. The meter/register ***shall***(E) be LCR-II and shall be clearly visible within easy reach of an operator standing on the ground. A check valve ***shall***(E) be installed on any air eliminator line.

(b) **Filter Differential Pressure** - A direct reading differential pressure gauge with a range of 0 to 206.8 kPa (0 to 30 psi) ***shall*** be provided. The gauge ***shall***(E) be Gammon Technical Products GTP-8980-G, connected to read the differential pressure across the filter-separator. The gauge ***shall***(E) have a peak pressure hold feature that is capable of being reset and a differential pressure proximity switch that can stop the flow; and

(c) **Test Port –** A test port for the clear and bright fuel testing ***shall*** be provided.

3.17 **<u>Equipment Electrical System</u>**

3.17.1 **<u>Electrical Requirements</u>** - Electrical components ***shall*** meet the following requirements:

(a) The electrical installation ***shall*** meet the requirements of NFPA 407;

(b) All electrical system components ***shall*** be fully resistant to deterioration caused by fuels and additives to be carried on-board the vehicle;

(c) Wiring ***shall*** be installed in conduit or employ encapsulated cable. The tubing ***shall*** run the full length between components or enclosures without splicing;

(d) All wiring ***shall*** be adequately sized for the maximum loads of the respective circuits;

(e) All wiring (conductors) ***shall*** be full-length from component to component without any splicing;

(f) Electrical circuits for installed equipment ***shall*** be protected by identified vapour proof automatic circuit breakers;

(g) The installation of all lights, switches, relays, circuit breakers, electrical devices and similar components ***shall*** be vapour-proof. Components ***shall*** be installed in a vapour-proof enclosure, unless their construction is inherently vapour-proof. All connections to vapour-proof enclosures and components ***shall*** be sealed and vapour-tight;

(h) All wiring ***shall*** be labelled at each connecting end;

(i) Grommets ***shall*** be used when wiring passes through sheet metal; and

(j) No conduits ***shall*** be routed through the product tank, piping, or drains.

3.17.2 **Electrical Equipment** - The following equipment ***shall*** be provided:

(a) **Grounding Studs** – 4 unpainted brass grounding studs ***shall*** be installed. Each grounding stud ***shall*** be labelled with red circle measuring 100 mm in diameter, centred on or placed next to the stud. The words "Ground" and "Borne de terre" ***shall*** be painted in white letters within the red circle.

(b) **Grounding Cables** – Two grounding cables, complete with recoil reels and grip clamps part #ALS-10A (NSN 5999-00-134-5844) ***shall***(E) be provided. The cables and reels ***shall***(E) meet the requirements of Commercial Item Description A-A 50696, Type I (75 foot cable); and

(c) **Bonding** – The chassis frame, fuel delivery components, and other metal parts ***shall*** be electrically bonded.

(d) **Delivery Slip Printer** - A delivery slip printer ***shall*** be provided. The slip ***shall*** contain at least the following information:

i Header: National Defence / Défense Nationale
Name and Address of the Trader

ii Ticket Number;

iii Squadron Number, Aircraft Type and Number;

iv Home base/Country of Origin;

v Date, Start Time, and End Time;

vi Net Volume, Gross Volume, Volume Correction Statement and Type of Fuel Issued;

vii Issued By: Operator name and signature block; and

viii Accepted by: service number, rank, name, and signature block.

3.18 **Lubricants** – The hydrant cart ***shall*** be delivered with the manufacturer's standard lubricants and hydraulic fluids, as required. The lubricants and hydraulic fluids ***shall*** be consistent with the delivery location and season. The cart ***shall*** not require the use of manufacturer's special lubricants and hydraulic fluids following the break-in period. Lubrication fittings ***shall***(E) conform to SAE J534.

3.19 **Paint and Markings**

3.19.1 **Paint -** The following paint procedure ***shall*** be followed:

(a) **Manufacturer's Painting Method** - Paint applied in accordance with the paint manufacturer's recommendations and the manufacturer's best production procedures, rendering a durable finish and a smooth appearance, free from runs, sags and orange peel;

(b) **Phosphate Treatment** - A phosphate treatment plus primer or an E-coat system on all ferrous metals, followed by a minimum of one coat of paint and a clear coat; and

(c) **Chrome** - Chrome and chromed decorative features ***shall*** not be employed.

3.19.2 **Paint Colour** – The vehicle and tank ***shall*** be painted orange. The chassis components may be painted the manufacturer's standard colour

3.19.3 **<u>Corrosion Protection</u>** - The following ***shall*** be provided for the vehicle:

(a) **Rust Proofing** - Aftermarket rust proofing ***shall*** be provided in addition to standard factory rust proofing.

(b) **Rust Preventive** – All metal surfaces treated with a rust preventive oily film product having the following properties;

i Moisture displacing;

ii Creeping (capillary action);

iii Low solvent content;

iv Compatibility with rubbers, plastics, and all other materials used in automotive construction;

v Non toxic; and

vi Minimal dripping.

(c) **Salt Spray Endurance Test** – Written proof of a twelve hour ASTM B117 salt spray endurance test certification by an independent test laboratory ***shall*** be provided with the first cart. Krown Rust Kontrol and Rust Check products have been previously certified, proof not required;

(d) **Application Areas** - The application includes, but is not limited to the underside of fenders and hood, enclosed and boxed-in sections, seams, mouldings, crevices, weld points, underbody, and exposed exterior brackets;

(e) **Warranty Documentation** - A decal and warranty papers accompanying each vehicle; and

(f) **Availability** - Corrosion protection system widely available across Canada or available through mobile services.

Note: The following corrosion protection system is provided as guidance: Krown Rust Kontrol or Rust Check products.

3.19.4 **<u>Corrosion Resistant Materials</u>** - The hydrant cart ***shall***:

(a) **Rivets** - Be provided with stainless steel, zinc plated or hot dipped galvanized aluminium rivets, and plastic black oxide brass fasteners; and

(b) **Corrosion Protection Design** - Be designed to prevent galvanic corrosion.

3.19.5 **<u>Vehicle Identification</u>** – The following information ***shall*** be permanently and clearly marked, bilingual and installed in a conspicuous and protected location:

(a) The chassis manufacturer' name, model number, serial number and model year;

(b) The GVWR and GAWR ratings.

3.19.6 **<u>Warning and Instruction Plates</u>** – International symbols and/or bilingual markings ***shall*** be provided for all identification, instructional, and warning labels. The following items ***shall*** be provided:

(a) Product Flow Diagrams;

(b) Operating Instructions;

(c) Engraved metal plates labelling all gauges, controls, fuel system service points, product tank sump, drain points, and sampling locations. These plates ***shall*** be attached with rivets wherever possible;

(d) Each valves of the piping system ***shall*** be physically identified;

(e) Four dangerous goods placard holders ***shall*** be provided and located on each side of the vehicle. Four dangerous goods placards for product “1863” ***shall*** be provided and installed; and

(f) There ***shall*** be provisions made to mount a flat fuel identification sign on each side of the vehicle. The signs measure 610 mm (24”) high by 1.22 metres (48") long and 3.17 mm (0.125”) thick.

4. INTEGRATED LOGISTIC SUPPORT

4.1 Manuals

(a) All manuals required for the description, operation, maintenance and repair of the complete equipment, including sub-systems, ***shall*** be provided. As a minimum, the manuals ***shall*** consist of a bilingual Operator’s manual, and bilingual Maintenance manual and an English Parts manual. Bilingual Parts manuals are desirable. The content of the manuals ***shall*** be as described in Section 2 of C-01-100/AG-005 Acceptance of Commercial and Foreign Government Publications as Adopted Publications.

(b) The contractor ***shall*** submit sample manuals to the Technical Authority (TA) for each equipment model and or sub-system for approval as described in Section 2 of C-01-100/AG-005 Acceptance of Commercial and Foreign Government Publications as Adopted Publications, not later than 30 days after acceptance by DND of the first production article.

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(c) Approved manuals ***shall*** be delivered as follows:

i. Qty 1 Operator’s manual (paper format) ***shall*** be provided including on board storage, with each vehicle or piece of equipment;

ii. Qty 1 complete set of manuals (Operator’s, Maintenance and Parts) ***shall*** accompany the first vehicle or equipment shipped the unit. The manuals ***shall*** be in paper and electronic format;

iii. Qty 1 complete set of manuals (Operator’s, Maintenance and Parts) in both electronic and paper format ***shall*** be delivered to the Technical Authority no later than 30 days after acceptance of the sample manuals.

(d) In the event that approved manuals are not available at the time of delivery of the equipment, manuals marked “Provisional” ***shall*** be supplied with the equipment. The contractor ***shall*** deliver replacement approved manuals to all destinations where Provisional manuals were delivered.

(e) The contractor ***shall*** supply manual supplements (Operator’s, Maintenance and Parts) to support dealer-installed equipment not covered in approved manuals. These supplements ***shall*** require separate DND approval. These supplements ***shall*** be provided to each destination in the same quantities and format as the approved manuals.

(f) Changes to manuals:

i. During the period of the Contract, changes to equipment, which affects the contents of manuals, ***shall*** be conveyed to DND by revising the electronic and paper version of the manuals.

ii. Changes to the manual ***shall*** conform to the same format and presentation requirements as the original manuals.

iii. The revised electronic version of the manual ***shall*** be sent to the Technical Authority by the Contractor.

(g) Approved copies of the electronic format manuals ***shall*** be delivered on CD/DVD-ROM as per Para 3. CD/DVD-ROM ***shall not*** require installation, password and/or Internet connection to be accessed and ***shall*** be an unlocked PDF in a searchable format.

4.2 **Data Summary** - The contractor *shall* provide a bilingual Data Summary for each make/model/configuration as described in D-01-100-200/SF-000. A representative sample template of a Data Summary, Equipment Configuration Code (ECC) and the publication number will be provided to the Contractor by the Technical Authority.

i. The Data Summary ***shall*** provide details of all attachments and options.

ii. The Contractor ***shall*** submit a draft of the Data Summary to the Technical Authority for review and acceptance in electronic format (MS Word) within 30 days after contract award.

4.3 **Warning Sign and Identification Label** - The contractor *shall* deliver the equipment with bilingual warning signs and identification labels. Bilingual labels and signs ***shall*** also be represented in the parts manual.

4.4 **Warranty Letter**

(a) The contractor ***shall*** provide a bilingual Warranty Letter with each vehicle delivered in the approved DND format and include the following details:

i. A list of all Canadian designated warranty service providers that will honor the warranty for the equipment and attachments (if applicable) procured under this contract. This list shall include the contact person and phone number at each warranty service provider.

ii. Additional warranty coverage of sub-systems and a copy of the bilingual warranty letter from each sub-system's OEM.

iii. Warranty period as negotiated in the contract.

iv. Contractor contact information, name and phone number, for warranty support.

(b) The TA will provide the contractor a template for the DND acceptable format of the warranty letter.

4.5 **Photographs**

(a) Photographs ***shall*** be submitted in electronic format.

(b) Within 15 days of delivery of the first vehicle or equipment of each make/model/ configuration, the contractor ***shall*** supply colour photographs, taken against a plain background, in digital Joint Photographic Experts Group (JPEG) format with a minimum 10 megapixel resolution of the following:

i. A left front three-quarter views of a completed unit;
ii. A right rear three-quarter views of a completed unit, and;

iii. A side and front view sketch showing dimensions ***shall*** be provided. Brochure sketches are acceptable.

4.6 Special Tools List

(a) The contractor ***shall*** provide an itemized list of specific special tools required for the servicing and repair of the vehicle or equipment procured under this contract. The list ***shall*** include the following information.

i. Item name;
ii. Manufacturer's part number (OEM);
iii. Quantity recommended per delivery location;
iv. Contractor's part number;
v. Unit price; and
vi. Unit of issue.

(b) These tools ***shall*** also be listed in the Maintenance manual as described in Section 2 Para 4 of C-01-100/AG-005 Acceptance of Commercial and Foreign Government Publications as Adopted Publications.

4.7 Training

4.7.1 Operator Training

(a) The Contractor ***shall*** deliver an operator training session dealing with the specific features and capabilities of the equipment. The training ***shall*** cover, as a minimum, the operator servicing procedures, how to operate the features of the vehicle safely and efficiently and deliver a minimum of one (1) hours of individual practical operating training per operator.

(b) The training ***shall*** be a minimum of seven (7) hours total of operator training for a maximum of six (6) persons at a customer location where the equipment is delivered. Training ***shall*** be available in both official languages. Training dates ***shall*** be coordinated with the TA.

(c) The contractor ***shall*** provide a copy of the training package to the TA for review and approval at least 30 days before training begins.

(d) The contractor ***shall*** deliver the "**PROOF OF OPERATOR TRAINING**" certificate for signature by a Crown Representative at training location and return the signed document to the TA. The Technical Authority will supply the document template in an electronic format to the contractor.

4.7.2 Maintenance Training

(a) The Contractor ***shall*** deliver a maintenance personnel training session. The training ***shall*** cover, as minimum, the safety precautions, trouble shooting, test and adjustment, special tools and test equipment, minimum operation and features of the vehicle and the safe and efficient maintenance of the vehicle.

(b) The maintenance training should be a minimum of fourteen (14) hours of training for a maximum of six (6) persons at a customer location where the equipment is delivered. Training ***shall*** be available in both official languages. Training dates ***shall*** be coordinated with the TA.

(c) The contractor ***shall*** provide a copy of the training package to the TA for review and approval at least 30 days before training begins.

(d) The contractor ***shall*** deliver the "**PROOF OF MAINTENANCE TRAINING**" certificate for signature by a Crown Representative at training location and return the signed document to the TA. The Technical Authority will supply the document template in an electronic format to the contractor.

(e) The Contractor ***shall*** provide a flow chart showing fuelling, defuelling and recirculation operations for both high and low flow rate, an air diagram and an electric diagram display for each training location.

4.7.3 **Training Video** - The Contractor ***shall*** provide Bilingual (English/French) operator and maintainer training videos. These videos shall be used for initial training and will be kept by DND for refresher training. The video ***shall***(E) cover all training subjects required above, be interactive and of high quality of 1600x720 pixels minimum resolution. The video ***shall*** be delivered on CD/DVD-ROM and ***shall not*** require installation, password and/or Internet connection to be accessed.

4.8 **Provisioning Documentation** - The Contractor ***shall*** provide the following provisioning documentation (PD) as described in D-01-100-214/SF-000;

(a) A Recommended Spare parts List (RSPL) as described in D-01-100-214/SF-000 Para 3.1.2. The RSPL ***shall*** include the following additional information; required quantity per equipment (QPE), item cost, OEM part number name and NCAGE (if known) and contractor part number. The RSPL shall be provided to the technical Authority (TA) for review and acceptance;

(b) A Supplementary provisioning technical Documentation (SPTD) ***shall*** be provided as described in D-01-100-214/SF-000 for each item listed in the RSPL;

(c) The RSPL ***shall*** be provided to the technical Authority (TA) for review and acceptance within 30 days after contract award.

4.9 **Certification** - The Contractor ***shall*** provide the following certification prior to shipment:

(a) The product meter ***shall*** be certified in accordance with Measurement Canada Weights and Measures Act (R.S., 1985, c. W-6)**.**

(b) The vehicle/equipment shall be certified for trade

4.10 **Testing** - The following testing ***shall*** be performed on the vehicle:

(a) All testing necessary to meet the requirements of NFPA 407, CSA B836-05 and the Measurement Canada Weights and Measures Act (R.S., 1985, c. W-6);

(b) NATO F-34 (JP-8), NATO F-37 (JP-8 + 100) or NATO F-35 (Jet A-1) fuel ***shall*** be used for testing.