Public Works and Government Services Canada

Travaux publics et Services gouvernementaux Canada

RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:

Bid Receiving - PWGSC / Réception des soumissions - TPSGC
11 Laurier St. / 11, rue Laurier
Place du Portage, Phase III
Core 0A1 / Noyau 0A1
Gatineau, Québec K1A 0S5
Bid Fax: (819) 997-9776

REQUEST FOR PROPOSAL
DEMANDE DE PROPOSITION

Proposal To: Public Works and Government Services Canada

We hereby offer to sell to Her Majesty the Queen in right of Canada, in accordance with the terms and conditions set out herein, referred to herein or attached hereto, the goods, services, and construction listed herein and on any attached sheets at the price(s) set out therefor.

Proposition aux: Travaux Publics et Services Gouvernementaux Canada

Nous offrons par la présente de vendre à Sa Majesté la Reine du chef du Canada, aux conditions énoncées ou incluses par référence dans la présente et aux annexes ci-jointes, les biens, services et construction énumérés ici sur toute feuille ci-annexée, au(x) prix indiqué(s).

Comments - Commentaires

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

Title - Sujet A/C Lavatory Servicing Truck	
Solicitation No. - N° de l'invitation W8476-155123/A	**Date** 2014-06-25
Client Reference No. - N° de référence du client W8476-155123	
GETS Reference No. - N° de référence de SEAG PW-$$HP-371-65295	
File No. - N° de dossier hp371.W8476-155123	**CCC No./N° CCC - FMS No./N° VME**
Solicitation Closes - L'invitation prend fin **at - à 02:00 PM** **on - le 2014-08-05**	**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: Modérie, Christine	**Buyer Id - Id de l'acheteur** hp371
Telephone No. - N° de téléphone (819) 956-3970 ( )	**FAX No. - N° de FAX** (819) 953-2953
Destination - of Goods, Services, and Construction: **Destination - des biens, services et construction:** Specified Herein Précisé dans les présentes	

Instructions: See Herein

Instructions: Voir aux présentes

Vendor/Firm Name and Address
Raison sociale et adresse du fournisseur/de l'entrepreneur

Delivery Required - Livraison exigée See Herein	**Delivery Offered - Livraison proposée**
Vendor/Firm Name and Address **Raison sociale et adresse du fournisseur/de l'entrepreneur** **Telephone No. - N° de téléphone** **Facsimile No. - N° de télécopieur**	
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**	

Canada

Destination Code - Code destinataire	Destination Address - Adresse de la destination	Invoice Code - Code bur.-comptable	Invoice Address - Adresse de facturation
D - 1	8 WG TRENTON MAJOR EQUIPMENT SECTION 8 WING SUPPLY TRENTON 46 PORTAGE DR. BLDG. 162 TRENTON ON K0K 3W0	W8476	DEPARTMENT OF NATIONAL DEFENCE 101 COLONEL BY DR. ATT: DLP 5-5-1-2 OTTAWA Ontario K1A0K2 Canada

Item Article	Description	Dest. Code Dest.	Inv. Code Fact.	Qty Qté	U. of I. U. de D.	Unit Price/Prix unitaire FOB/FAM Destination	Plant/Usine	Delivery Req. Livraison Req.	Del. Offered Liv. offerte
1	A/C Lavatory Servicing Truck is to be supplied in accordance with the requirement description / specifications detailed in Annex “B”.	D - 1	W8476	3	Each	$	XXXXXXXXXX	See Herein	

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National Défense
Defence nationale

March 20th, 2014

PURCHASE DESCRIPTION

FOR

AIRCRAFT LAVATORY SERVICING TRUCK

ECC 189424

NOTICE

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

AVIS

Cette documentation a été révisée par l'autorité technique et ne contient pas de marchandises contrôlées.

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

Canada

1. SCOPE

1.1 Scope

This purchase description describes the requirement for a light duty, aircraft lavatory servicing truck equipped with a hydraulic lift platform used to remove lavatory waste from aircraft toilets and to replenish the fluids in the flush system. This vehicle ***shall*** be capable of vacuum pumping waste from military and small aircraft, gravity dumping or disposal from large aircraft including wide body models.

1.2 Instructions

The following instructions apply to this Purchase Description:

(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;

(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.

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) "Equivalent" - A standard, means, or component type, which has been accepted by the Technical Authority as meeting the specified requirements for form, fit, function and performance;

(c) "Guidance" is defined as a requirement that may be followed. The guidance is provided to indicate a preferred component Make and Model or dimension that would be best for the application. However, deviating from a "guidance" doesn't consider the bid non-compliant.

(e) "Vehicle" **-** refers to the cab, chassis, and parts provided with the frame before the addition of the aerial;

(f) "Vehicle/equipment" **-** refers to the completely manufactured air drop zone pallet recovery vehicle with all related parts and equipment installed;

2. APPLICABLE DOCUMENTS

2.1 Government Furnished Documents

N/A

2.2 Other Publications

The following document(s) form(s) part of this Purchase Description. The date(s) of issue are those in effect on the date of release of the RFP. Source is as shown:

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

Yearbook
Tire and Rim Association Inc.,
3200 West Market St.,
Akron, Ohio, 44321
http://www.us-tra.org/traHome.htm

Canadian Motor Vehicle Safety Standards (CMVSS)
Transport Canada,
Road Vehicle and Motor Vehicle Regulation,
330 Sparks Street, Tower C,
Ottawa, Ontario K1A 0N5
http://www.tc.gc.ca/acts-regulations/GENERAL/M/mvsa/menu.htm

Canadian General Standards Board
CAN/CGSB 3.24-2005 Aviation Turbine Fuel (Military Grades F-34 and F-44)
CAN/CGSB 3.517-2007 Automotive Ultra Low-Sulphur Diesel Fuel
http://www.pwgsc.gc.ca/cgsb/home/index-e.html

American National Standards Institute
ANSI /SIA A92.7-1990 (R1998) Airline Ground Support Vehicle-Mounted Vertical Lift Devices
http://webstore.ansi.org/default.aspx

Anthropometric Survey of the Land Forces, 1998
http://cradpdf.drdc-rddc.gc.ca/PDFS/zbc76/p508756.pdf

Occupational Health and Safety Act (OHSA), 1990
Ontario Ministry of Labour,
400 University Ave.,
Toronto, Ontario M7A 1T7
http://www.labour.gov.on.ca/

3. REQUIREMENTS

3.1 Standard design

The vehicle ***shall***:

(a) Be the manufacturer's latest model having 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 comparable type of equipment of equivalent or greater complexity;

(b) Have engineering certification available, upon demand, for this application from the original manufacturers of major equipment systems and assemblies;

(c) Not have system and component capacities increased above published ratings;

(d) Include all components, equipment and accessories normally supplied for this application, although they may not be specifically described in this purchase description;

(e) Have a life expectancy before major overhaul of at least 10 years, with a desirable life expectancy of 15 years; and

(f) Conform to all applicable laws, regulations and industry standards governing manufacture, safety, noise levels, and emissions in effect in Canada at the time of manufacture.

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 15 years from the date of manufacture;

(d) Maintainability – All routine maintenance and repair tasks ***shall*** be able to be preformed at the operator skill level and accessible without the disassembly of major components; and

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

3.2 Operating Conditions

The vehicle/equipment under all operating conditions ***shall*** operate as follows without degradation in performance, reliability, or maintainability:

3.2.1 Weather

The vehicle/equipment ***shall*** operate under the extremes of weather conditions found in Canada in temperatures ranging from -40°C to 37° C (-40°F to 99° F) and cold starting from -40°C with external aids. The vehicle ***shall*** be capable of being stored in ambient temperatures of -50°C to 60°C.

3.2.2 Terrain

The vehicle/equipment ***shall*** operate over uneven surfaces of paved and compacted gravel airport runways and taxiways including snow, hard packed snow, and ice, without the use of operator installed supplementary traction aids, i.e. tire chains.

3.3 Human Engineering and Safety

The vehicle/equipment, all systems and components ***shall*** comply with the most recent requirements of the applicable SAE standards, the Anthropometric Survey of the Land Forces and relevant sections of the OHSA and ***shall***:

(a) Be safe and easy to use by a person with suitable clothing for all 5-95th percentile body dimension and 5th percentile strength under all operating conditions;

(b) Have all entry and exit points equipped with handles and steps suitably positioned where required, to accommodate 5-95th percentile body dimensions under all operating conditions; and

(c) Be equipped, where required for operator safety, with safety features such as warning and instruction plates, non-slip walking surfaces and heat shields.

(f) Be designed in accordance with the latest version of ANSI /SIA A92.7-1990 (R1998).

(g) Have auto-ejector outlets to prevent accidental damage to vehicle or power cable when plugged in to shore power.

3.4 Noise Level

The vehicle/equipment exterior noise level ***shall*** meet the requirements of legislation relative to OHSA, SAE Recommended Practice J1096 both at the operator's station and exterior to the vehicle.

3.5 Weights and Dimensions

The vehicle ***shall*** have a Gross Vehicle Weight Rating (GVWR), as published in the manufacturer's literature and engineering data which is at least equal to the total of the load rating and the curb weight of the completed vehicle, including full fuel tanks, all lubricants and fluids, and all special equipment, and ***shall*** be as follows:

(a) The vehicle ***shall*** have a Gross Axle Weight Rating (GAWR) for each axle equal to or less than the load rating of the weakest component in the axle system, i.e., axle housing, suspension, wheels, or tires;

(b) The GAWR for each axle ***shall*** be sufficient to support the total load imposed on the axle when the truck is fully loaded; no truck component to be loaded greater than its rated capacity; and

(c) Component and vehicular load and capacity ratings ***shall*** not be raised above normal commercial levels in order to meet the requirements of this specification.

3.6 Performance

3.6.1 Vehicle Performance

The loaded vehicle ***shall*** achieve at least 80 km/h (50 mph) on dry level pavement.

3.6.2 Aircraft Operability

The vehicle/equipment ***shall*** be capable of lavatory servicing for the following aircraft:

(a) All Canadian Forces CC130 Hercules, CC150 Airbus and CC177 Globemaster aircraft;

(b) NATO military transport aircraft including C-5, C-17, C-130, C-141, C-160, KC-10, and KC-135;

(c) Chartered aircraft including Il-76, An-124 and An-225; and

(d) Commercial wide-body cargo aircraft including Airbus A300 series, B-737, B-747, B-757, B-767, MD-11, L-100, L-188, L-1011 and DC-10 as well as all narrow-body commercial cargo aircraft.

3.6.3 Air Transportability

The vehicle/equipment ***shall*** be capable of being loaded into all Canadian Forces CC-177 Aircrafts. The following applies:

(a) Vehicle tie down provisions ***shall***:

i. Be designed for a forward load of 3 g, a rearward load of 1.5 g, a vertical load of 2 g and a lateral load of 1.5 g (1 g = shipping weight of the equipment); loads are not imposed simultaneously;

ii. Be designed and located to allow vehicle to be anchored to prevent shifting or movement during transport;

iii. Be permanent and integrally attached;

iv. Be located to permit easy attachment of cables or turnbuckles;

v. Be identified and marked with maximum load permitted. Markings ***shall*** be painted using a contrasting colour; and

vi. Provide complete tie down provision locations with instructions. It is preferable to have this information shown in the manual as well as available as decals in the vehicle cab.

(b) Vehicle ***shall*** be able to be configured for air-transportability using only common hand tools by 3 trained persons in 90 minutes or less. All equipment removed ***shall***$^{(E)}$ be stored on the vehicle.

3.6.4 Pumping Performance

The vehicle/equipment ***shall*** be capable of both vacuum and pressure pumping at the same time. The sanitation vehicle ***shall*** also be capable of gravity waste evacuation of aircraft lavatories and water flushing and replenishment of toilet fluids.

3.7 Chassis

The frame ***shall*** be of reinforced construction suitable to meet the gross laden weight. The design ***shall*** as recommended by the vehicle manufacturer to provide adequate strength and torsional stiffness to ensure satisfactory operation under specified operating conditions.

3.8 Engine

The following ***shall*** be provided:

(a) A liquid cooled diesel engine;

(b) The engine ***shall***(E) operate on ultra low sulphur diesel fuel to CAN/CGSB Standard 3.517-2007 Type A-ULS or B-ULS; and

(c) Manufacturer's recommended safety or emergency shut-down controls in the cab and on the pedestal lift with a manual reset which is easily operable;

(d) An automatic or manually activated fast idle system to raise engine speed when required for operations. The system ***shall*** have interlocks to prevent engine starting or shut down, gear shifting, or travelling with fast idle engaged and ***shall*** not interfere with the operation of the emergency engine shut-down system;

(e) A replaceable severe-service type air cleaner protected from the ingress of snow and rain, and an air cleaner restriction indicator;

(f) A full flow oil filter with a spin-on or replaceable element;

(g) An engine shutdown system or engine de-rate for low oil pressure or high water temperature which ***shall***(E) incorporate an operator-controlled override and indicator light. An audible alarm is desirable;

(h) 110/220V heating elements in the engine oil, coolant, fuel, and any other systems as necessary to enable starting and operation in the environmental conditions specified in Paragraph 3.2. The wiring and connections ***shall*** terminate in the minimum number of receptacles of sufficient capacity, securely mounted and clearly labelled. The receptacle(s) ***shall*** include either a dust and weatherproof plug with a rustproof retaining chain or a spring loaded hinged cover;

(i) If a diesel particulate filter is used, a manual or parked regeneration feature ***shall*** be provided to remove excess soot from the filter; and

(j) Any measures other than those already required by this Purchase Description that are necessary to adhere to the engine manufacturer's recommendations for operation in the environmental conditions specified in Paragraph 3.2.

3.8.1 Engine Components

Engine components ***shall*** include:

(a) Exhaust system to be designed to direct exhaust gases away from the aircraft and operator when using the waste management system;

(b) Weather guards or an effective device to prevent entry of rain into intake and exhaust stacks if applicable;

(c) A governor to limit engine speed to the operating range recommended by engine manufacturer;

(d) A drain plug in the oil pan which may be magnetic;

(e) A cooling system which ***shall*** control engine temperature within manufacturers recommended operating range when subject to specified operating conditions; and

(f) A thermostatically controlled radiator fan.

(g) Any measures other than those already required by this purchase description that are necessary to adhere to the engine manufacturer's recommendations for this application in the operating conditions specified in section 3.2.

3.8.2 Fuel System

Fuel system requirements ***shall*** include:

(a) Have a minimum capacity to allow for the equipment to be operated at full capacity for a minimum of eight hours without requiring refill;

(b) The fuel tank ***shall*** be equipped with a non-spill type air vent. The fuel tank ***shall***$^{(E)}$ have a drain cock or plug installed at the lowest point of the tank; and

(c) The fuel tank at least half full when delivered to the destination.

3.8.3 Engine Cold Weather Aids

The engine ***shall*** be equipped with cold weather aids to enable the engine (operating with winter grade fuels/oils) to be started at temperatures down to -40° C. External electrical power for the engine and battery heaters ***shall***$^{(E)}$ be provided at a location, accessible without lifting the engine covers, with a single cover-protected plug. It is preferred that the plug includes or is accompanied by a light (preferably LED) indicating when power is being supplied to the 110 volt components. The following ***shall*** be included:

(a) 110-volt engine heater(s) with a capacity as recommended by the engine manufacturer or conforming to SAE Information Sheet J1310;

(b) 110-volt battery heater(s) having wattage matched to battery size to prevent battery damage due to overheating. The battery ***shall*** be housed in an insulated battery box or in a heated cab;

(c) A water separator/ fuel filter incorporating an electrical heating system to preheat diesel fuel prior to starting;

(d) An in-line fuel heater. The heater ***shall*** be thermostatically controlled to prevent fuel temperature from rising above approximately 43°C (110° F). It is preferred that this be a heat exchanger type connected to the cooling system; and

(e) A low temperature starting aid. The engine ***shall*** have an ether injection system, glow plug or intake air preheat system.

3.9 Transmission

The transmission ***shall*** be either an automatic or hydrostatic continuous drive type as defined in SAE Recommended Practice J645 designed and rated to accept the power and torque required to meet the performance specified. The transmission ***shall*** include the following:

(a) The control system ***shall*** include a positive detent/lock in the neutral position to preclude inadvertent shifting from forward to reverse speeds through the neutral position in one continuous action;

(b) An oil cooler of a capacity approved by the transmission manufacturer for the service intended;

(c) An oil filter;

(d) A safety device to ensure that the engine can only be started in the neutral or park position; and

(e) The transmission shift control clearly indicating which position the shift column is engaged in under all lighting conditions.

3.9.1 Power-Take-off

The PTO ***shall***(E) be a hot-shift PTO system. The shifting mechanism ***shall***(E) be controllable by the operator from the cab. An indicator light within the cab, pedestal, and control panel ***shall***(E) be provided to indicate when the PTO is engaged. A safety guard ***shall***(E) cover the PTO shaft. A safety mechanism ***shall***(E) be installed to prevent damaging the PTO/gear box shifting mechanism and transmission during engagement/disengagement.

3.10 Axles and Suspension

When operating with the rated payload, the axles and suspension system ***shall*** not be loaded greater than their rated loads.

3.11 Wheels, Rims and Tires

Wheel, rim, and tire requirements ***shall*** include:

(a) Radial ply tires in all locations with a tread pattern compatible with the operating conditions specified in section 3.2;

(b) The tire size and ply ratings ***shall*** be in accordance with Tire and Rim Association Standards.

(c) Rims in accordance with Tire and Rim Association Standards; and

(d) A spare tire and rim assembly of the same size and ply ratings ***shall*** be supplied. If the front and rear tires are of different sizes, then one spare tire and rim assembly for the front and one for the rear ***shall*** be supplied. The spare tire and rim assemblies can accompany the vehicle as a separate package.

3.12 Braking System

The vehicle ***shall*** be equipped with the manufacturer's standard power assisted braking system suitable for this application. The braking system ***shall***(E) include:

(a) Brake hoses which meet the applicable requirements of SAE Standard J1401;

(b) Brake hoses or lines passing through metal ***shall***(E) be protected to prevent damage or failure due to chafing or vibration; and

(c) Manufacturer's standard independent parking brake.

3.13 Steering

Manufacturer's standard power steering ***shall*** be provided.

3.14 Cab

The cab ***shall*** be the manufacturer's standard commercial enclosed type. The cab ***shall*** be fully rust proofed. The cab ***shall***(E) include:

(a) A complete weatherproof enclosure for the operator, including lining and insulation;

(b) Locks on cab door(s) capable of being opened independently from the exterior and interior of the cab. Locks ***shall*** be keyed alike;

(c) A mat(s) on the cab floor and toe-board;

(d) Manufacturer's standard air heater and windshield defroster for the operating conditions specified in section 3.2.1;

(e) Retractable 3-point restraining devices for the driver and passengers;

(f) Two heavy-duty braced, rectangular adjustable external rear view mirrors of unit magnification, with glass not less than 40.6 by 15.2 cm (16 by 6 in), located one on each side of the vehicle to provide the clearest possible un-distorted view to the rear from the driver's position. Mirrors ***shall*** be heated, shock mounted and sealed against the ingress of moisture. A minimum 10.1 cm (4 in) convex heated mirror ***shall*** be mounted below each mirror;

(g) Power operated windshield washer system and variable speed, intermittent windshield wipers, capable of clearing the windshield during driving operations, and where the wiper blades **do not** travel from a vertical centre windshield position to a horizontal position near the roof line;

(h) Manufacturer's standard air conditioning system equipped with all components and controls required for regulation of the cab interior temperature. The air conditioning system ***shall*** not use ozone depleting refrigerants (chlorofluorocarbons (CFCs)) and ***shall***$^{(E)}$ use hydro fluorocarbons (HFCs);

(i) A power operated windshield washer system;

(j) Driver's seat, fully adjustable and insulated by springing or other means from chassis shocks and vibrations; and

(k) Steps and grab handles on each side of the cab to provide easy and safe access.

3.15 Cab Instruments and Controls

Instruments and controls panel mounted in the cab ***shall*** be labelled with international symbols. The symbols ***shall***$^{(E)}$ be in accordance with SAE Standards J2402 and J1362 and in SI units where applicable. A "Murphy Gauge" style digital instrument panel ***shall***$^{(E)}$ be acceptable. The instruments and controls ***shall***$^{(E)}$ include:

(a) Left hand drive control;

(b) Engine tachometer without an integral hour meter;

(c) Speedometer and odometer calibrated in kilometres;

(d) Fuel level gauge;

(e) Engine oil pressure gauge;

(f) An engine coolant temperature gauge;

(g) Dash mounted power-take-off engagement warning light (if applicable);

(h) An ammeter or voltmeter to indicate battery charge condition;

(i) A direct reading digital type hour meter with registration of at least 9999 hours of operation. The hour meter ***shall***(E) only operate while the engine is actually running;

(j) Indicator lights for parking brake application, hydraulic fluid over temperature, and transmission fluid over temperature; and

(k) Any other instruments/controls specified in this purchase description to be located in the cab.

3.16 Electrical System

The truck ***shall*** be equipped with a 12-volt or 24-volt electrical system that ***shall*** include:

(a) Maintenance free battery(s), the batteries ***shall*** be in an accessible well-protected location. Mounting ***shall*** include adequate bottom rubber padding, heat shielding if necessary, and proper hold-downs;

(b) To preserve the battery and prolong its life, alternator output voltage should be set to the specific battery type as per manufacturer specifications. In addition the alternator ***shall*** be equipped with temperature compensation circuit to protect the battery from under- or overcharging;

(c) Lights, reflective devices and associated equipment complying with all requirements of the Canadian Motor Vehicle Safety Standards (CMVSS);

(d) Rubber grommets to protect the wiring where it passes through metal;

(e) LED type clearance lights, turn signals, stop and taillights, back-up, and licence plate lights as required. Halogen or LED type headlights with high/low beam ***shall*** be provided. Lights and reflectors at the rear ***shall*** be recessed or otherwise protected from damage. All lighting equipment at the rear of the vehicle and all identification and clearance lighting equipment mounted on the tank ***shall*** be of a sealed unit design, with waterproof connectors;

(f) Dimmable instrument panel lights;

(g) At least one LED interior light for the cab;

(h) Back-up warning alarm device of a type that senses ambient noise level and automatically adjusts output volume to compensate;

(i) A roof mounted amber LED stroboscopic beacon light to allow for 360 degree visibility;

(j) Two (2)Swivel mounted LED flood/spot lamp mounted on the cab roof and on the pedestal lift with an on/off switch mounted on the instrument panel in the cab and on the lift;

(k) A master switch which effectively cuts off any flow of electricity from the batteries to protect the entire electrical system of the vehicle. A manual control for this switch ***shall*** be readily accessible from the ground on the operator's side of the cab. The "live" wire ***shall***(E) be as short as possible and be protected; and

(l) 110V battery trickle charger with overcharge protection and an appropriately labelled receptacle located near the winterization receptacle.

3.17 Body Shroud

A weather tight, insulated body shroud ***shall*** be installed to the rear of the cab enclosing all the sanitation tanks, pumps and components, the hydraulic reservoir, filters, and motors. The shroud ***shall*** protect the tank, pumps, and all other components in the operating conditions specified in section 3.2 Operating Conditions. The shroud ***shall***$^{(E)}$ be a low profile with a nominal height from ground level to the top of the tank of 60" (±10") when empty. The nominal height is required for easy underwing approach and servicing for all Canadian Forces aircrafts listed in section 3.6.1. The body shroud ***shall*** include the following:

(a) Weatherproof and watertight joints;

(b) Floor suitably sloped to a drain hole to permit spilled liquid to drain directly below the vehicle;

(c) Sides, front and rear of shroud having sufficient panels to provide outside access to the enclosed sanitation components;

(d) Shroud constructed to include hinged door(s) to provide access to the sanitation pumps, components and sewage extraction hose area. The door(s) ***shall*** be constructed of durable corrosion resistant material with corrosion resistant hinges, lockable latches, weatherproof and waterproof seal and be equipped with rubber bumpers to prevent door contact with the shroud;

(e) The sewage extraction hose storage area ***shall*** incorporate a drain pan with a sloped bottom and a drain plug suitable for washing and draining residue to the waste tank. A dummy coupling ***shall***$^{(E)}$ be installed in the storage area to secure the extraction hose when not in use;

(f) Shroud roof constructed with the top consisting of suitably supported and framed steel floor plate for use as a working platform for personnel servicing aircraft. The entire top floor ***shall***$^{(E)}$ be skid-proofed and ***shall*** include skid-proofed access panels leading directly to the waste, water and chemical tanks to permit cleaning and inspection. Similar access panels ***shall*** be provided for any piping or components requiring inspection or periodic maintenance. The roof ***shall*** be a weather tight unit and ***shall***$^{(E)}$ be slightly crowned to ensure proper drainage;

(g) Suitable foam or rigid fibreglass insulation ***shall*** be provided between the shroud, tanks, components or piping to achieve the required protection for operating conditions outlined in Section 3.2. The entire inside and under surfaces of the shroud ***shall*** be treated and coated to prevent rust;

(h) Access ladder with hand grips and open grip strut steel or aluminum steps rigidly installed to gain access to the roof platform ***shall*** be installed;

(i) Minimum 10.16 cm (4 in) outside diameter, heavy hollow-rubber dock bumper ***shall***$^{(E)}$ be installed along the top rear corner extremities of the body shroud; and

(j) Open mesh step platform or bumper ***shall*** be installed on the body shroud for access to the platform or the hydraulic hoist.

3.18.1 **Body Shroud Heating System** – The body shroud interior ***shall*** be suitably heated when the vehicle is parked outside or in use during operating conditions outlined in Section 3.2. The heating system requirements ***shall*** include the following:

(a) The heater(s), ducting and enclosure design ***shall*** be of sufficient capacity and routing to ensure adequate heat flow throughout the body shroud interior. Heater controls ***shall*** be mounted in the vehicle cab and on the operator panel; and

(b) Thermostatically controlled 110 volt AC electric convection heater(s) located within the body shroud connected to an electrical receptacle installed at the operator control panel. Heater(s) ***shall*** be of sufficient capacity to protect the sanitation components from freezing when the vehicle is parked and plugged in.

3.19 Sanitation Components

3.19.1 **Sewage Tank** – A sewage or waste tank ***shall***$^{(E)}$ be constructed of Type 304 stainless steel and welded with Type E 308 welding rod. The tank, as specified, ***shall*** be capable of waste removal by gravity flow from the aircraft lavatory and pumped by vacuum or pressure from the aircrafts outlined in section 3.6.1. The tank ***shall*** include:

(a) Sufficient insulation to meet operating conditions outlined in Section 3.2;

(b) Minimum capacity of at least 1477 litres (325 Imperial gallons);

(c) Capability to withstand a minimum of 68 kPa (20 inches of mercury) vacuum without collapsing;

(d) A sloping floor, and internal safety baffles both designed to avoid the trapping of sewage;

(e) An inspection plate or manhole in the top of the tank of sufficient size to permit access for inspection and cleaning;

(f) Approximate 10.16 cm (4 in) outlet under the tank at the lowest floor point with a manually operated waste tank drain valve. The dump valve control ***shall***$^{(E)}$ be positioned at the lower rear or side of the vehicle, easily accessible to the operator, and be protected to prevent accidental opening. When in the open position, the dump valve and piping ***shall*** provide a clear unrestricted flow path for the sewage and maintain a leak proof seal when closed;

(g) Inlet valve with a suitable adapter to accommodate the waste hose. The control for this valve ***shall***$^{(E)}$ be positioned at the side or rear of the vehicle and be readily accessible to the operator;

(h) Minimum length of 5 m (17 ft) by 10 cm (4 in) inside diameter, smooth bore, flexible, non-collapsible sewage extraction hose. One end of the extraction hose ***shall*** be compatible with the adapter connected to the sewage inlet valve or the waste pump. The other end ***shall*** be compatible for waste extraction from the aircrafts specified in section 3.6.1. Adapters to achieve full compatibility will be acceptable. Both connectors ***shall*** be complete with plug and retaining cable;

(i) Minimum 12 m (40 ft) of 2.5 cm (1 in) flexible non-collapsible sewage extraction hose suitable for evacuating waste from C130 aircraft toilet canisters. Hose reel for this hose ***shall*** be provided and positioned at the side or rear of the vehicle and be readily accessible to the operator;

(j) Sewage tank level indicator to indicate waste level in the tank. The gauge ***shall***(E) be a sight or float gauge and mounted on the operator control panel. Gauge ***shall*** be illuminated; and

(k) Valves and piping insulated for cold weather operation.

3.19.2 **Sewage Pump** – A vacuum/pressure type sewage pump capable of pumping waste from military or commercial aircraft that cannot be drained by gravity feed ***shall*** be fitted. The pump ***shall*** be hydraulically driven. The pump ***shall*** be controlled by a switch or control valve located on the operators control panel. The pumping system ***shall***:

(a) Be able to operate the sewage pump and fluid delivery system (see section 3.22 below) concurrently;

(b) Capable of evacuating the applicable aircraft waste tank into the vehicle waste tank using 10 cm (4 in) diameter flexible waste hose and connections;

(c) Capable of evacuating C130 aircraft, interior toilet waste canisters with a minimum of 12 m (40 ft) of 2.5 cm (1 in) hose;

(d) Pressure/vacuum gauge installed at the operator control panel; and

(e) Adjustable relief valve for limiting pressure or vacuum.

3.20 **Water Tank** – The water tank ***shall***(E) be constructed of Type 304 stainless steel and welded with Type E 308 welding rod. The water tank ***shall*** include:

(a) Minimum capacity of 818 litres (180 gallons);

(b) Thermostatically controlled electric immersion heater(s) of sufficient wattage for the tank size. Heater(s) ***shall*** be located or positioned in the tank or tank sump to ensure the heater(s) are covered with liquid at all times, to protect them from burning out. The heater(s) and thermostats ***shall*** be accessible from outside the tank. The heater(s) ***shall***(E) be made of durable corrosion resistant stainless steel or INCOLOY®. Heater(s) controls ***shall*** be located on the operator control panel;

(c) Sufficient insulation to meet operating conditions outlined in Section 3.2;

(d) Independent tank vent or a vented filler cap of at least 5 cm (2 inches) inside diameter. The filler opening ***shall*** be accessible from outside the vehicle for gravity filling and ***shall*** be clearly marked to indicate the contents of the tank;

(e) Access plate for tank cleaning and inspection;

(f) Drain valve(s) and pipe for fully draining the entire tank contents including the sump housing the immersion heaters if applicable; and

(g) Illuminated float type level indicator or sight gauge or digital meter clearly visible from outside the vehicle to indicate fluid level. Sight gauges ***shall*** be protected, manufactured from material that will not discolour, or ***shall*** be capable of being readily removed for cleaning.

3.21 **Disinfectant Solution Tank** – The stainless steel disinfectant tank ***shall*** be in accordance with the water tank specified in section 3.20 with the following exceptions:

(a) Minimum capacity of 318 litres(70 Imp gallons); and

(b) Disinfectant solution tank ***shall***$^{(E)}$ be integral with the water tank or a separate tank mounted above or adjacent to the water tank.

3.22 **Fluid Delivery System** – The fluid delivery system ***shall*** fill and deliver water and chemicals into the tanks and to the hose(s) located in the rear compartment. The fluid delivery system ***shall*** include:

(a) Hydraulically driven pump with a minimum capacity of 114 litres/minute (30 US GPM) and with a minimum outlet pressure of 344 kPa (50 psi) at delivery hose with the ability to regulate pressure and flow;

(b) Adjustable relief valve and a by-pass to permit fluid to return to the tank;

(c) Removable filter or strainer with a minimum of 840 micron (#20 US mesh) capable of filtering fluid from both tanks;

(d) Capability of drawing fluid either independently from the water tank or the disinfectant tank or from both tanks at the same time;

(e) Capability of filling all tanks utilizing the fluid pump and a 2.5 cm (1 in) suction hose at least 2.4 m (8 ft) long;

(f) Illuminated industrial totalizing meter with zero reset and graduated to read in litres;

(g) Plumbing, including piping, valves, connectors and controls suitable for the service intended and compatible with disinfectant used. Plumbing and components ***shall*** be insulated or situated in a heated compartment to meet all requirements for operating conditions outlined in Section 3.2;

(h) 2.5 cm (1-in) inside diameter nylon reinforced fluid dispensing hose of at least 7.6 m (25 ft) in length complete with hose couplings to service aircraft listed in section 3.6.1. A drain back valve ***shall*** be installed to permit the fluid in the hose to drain back into disinfectant tank preventing spillage from the hose. The hose connections ***shall*** be designed to prevent fluid from spilling on the operator when connecting or disconnecting to the aircraft. The hose ***shall***$^{(E)}$ be stored on spring type rewind hose reel and positioned in the rear compartment with easy access from the operators platform; and

(i) Pressure gauge with a range suitable for the service intended and mounted at the control panel.

3.23 **Operator Control Panel** – The operator control panel ***shall*** be protected by an insulated covered panel if located on the outside of the vehicle. The panel ***shall*** be recessed sufficiently so that no control, instrument or gauge installed in the panel, protrudes beyond the body shroud. All the controls/instruments ***shall*** be labelled with international symbols. The symbols ***shall***$^{(E)}$ be in accordance with SAE Standards J2402 and J1362 and in SI units where applicable. The operator control panel ***shall*** include:

(a) Sanitation system controls, instruments, switches and gauges such as:

i. Sewage tank level indicator;

ii. Sewage pump switch or control valve; and

iii. Any other controls/gauges required for the operation and monitor of the sewage system.

(b) Panel illuminated with LED lights for easy identification of controls, instruments and gauges during night-time operation;

(c) Weatherproof, male electrical receptacle of sufficient amperage to operate tank immersion heater(s) and body shroud 110-volt AC heater system and ***shall*** be used when the vehicle is parked. The receptacle ***shall*** be suitably identified and indicate capacity; and

(d) Corrosion resistant temperature gauge to indicate the body shroud interior temperature.

3.24 **Pedestal Lift** – The pedestal lift ***shall*** be capable of lifting one man a minimum of 2.7 m (106.3 inches) from the ground to service wide body type aircraft. The pedestal lift ***shall*** include:

(a) Hydraulic cylinder with a minimum lift height of 2.7 m (106.3 inches) from ground to bottom of platform;

(b) Telescopic tube or device to prevent platform rotation;

(c) Single man platform and cage with a minimum lifting capacity of 200 kg (440 lb);

(d) Platform entry/exit gate;

(e) Brackets on platform cage for waste and water hoses;

(f) Manually operated emergency lowering valve and control;

(g) A non-slip walking surface.

(h) Heavy duty, weather proof, electric line/cord connecting platform controls to the truck. Cord ***shall***$^{(E)}$ be snag proof and self coiling to conform to the platform movements; and

(i) Adjustable LED spot/flood light complete with switch mounted on the lift control station.

3.24.1 **Lift Control Station -** Platform lift and pumping control station ***shall*** include:

(a) Water proof switches and controls;

(b) Water proof "kill" switch to halt all vehicle and lift functions, with the exception of lights; and

(c) Water proof switch for pump control.

3.25 **Hydraulic System** – The hydraulic system ***shall*** be of sufficient capacity to handle the maximum load required to operate the hydraulic lift and the waste and water pumps while operating at or below the systems maximum pressure. The system operating pressure on all components ***shall***

not exceed the manufacturer's recommended rating and be suitably protected by relief valves. The hydraulic system ***shall*** meet the following requirements:

(a) Hydraulic pumps and motors developing the required flow and pressure to operate all hydraulic functions;

(b) Hydraulic oil reservoir of sufficient capacity to operate the hydraulic system and incorporate adequate baffling or hydraulic cooler to ensure cooling of the oil before re-entry to the hydraulic pump for the operational temperatures as outlined in Section 3.2. The reservoir ***shall*** have an inspection cover sealed against the entry of water and large enough to permit cleaning of the tank. The reservoir ***shall*** be equipped with a dipstick or a sight gauge, a tank breather and a drain sump;

(c) Suction line filter or screen at ***shall*** be appropriately sized as recommended by the pumps OEM;

(d) Return line filter rated ***shall*** be appropriately sized as recommended by the pumps OEM; and

(e) Sufficient valves to prevent the loss of oil from the system when servicing the filters and pump.

3.26 Equipment – Equipment ***shall*** include:

(a) Licence plate holders, front and rear;

(b) A front bumper;

(c) A towing hook or hooks or equivalent towing attachments at the front and rear of the truck; and

(d) Mud flaps in accordance with SAE Recommended Practice J682.

3.27 Commercial Paint and Corrosion Protection

3.27.1 Paint Finish – The following applies:

(a) The prime coating ***shall*** be a high-durability, corrosion-resistant type. The prime coating ***shall***$^{(E)}$ be epoxy type or baked powder coat;

(b) Paint ***shall***$^{(E)}$ be a high visibility yellow.

(c) Chassis items painted Manufacturer's standard black, chromed, polished and/or mill finished surfaces need not be painted in colour specified in 3.27.1 (b).

3.27.2 Corrosion Protection - The following ***shall*** be provided for the vehicle:

(a) Aftermarket rust proofing provided in addition to standard factory rust proofing. Written proof of a twelve hour ASTM B117 salt spray endurance test certification by an independent test laboratory. Krown Rust Kontrol and Rust Check products have been previously certified, proof not required;

(b) 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) 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; and

(d) Proof of application, decal and warranty papers accompanying each vehicle.

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

3.27.3 Corrosion Resistant Materials – The following applies:

(a) The material used in construction ***shall*** be selected to prevent galvanic corrosion.

3.28 Plates and Markings – All plates and markings ***shall*** be in bilingual (English and French) format and use international symbols wherever possible. The following applies;

(a) An identification plate ***shall*** be provided in a conspicuous and protected location listing the manufacturer's name, model number, model year and serial number; and

(b) Instruction plate(s) ***shall*** be provided in the cab and the operator control panel within easy view of the driver. The instruction plate(s) ***shall***$^{(E)}$; display instructions for engine starting and shut-down, differential locking, transmission operation, and any other special procedures to be followed in operating the vehicle.

3.29 Lubricants and Fluids – The vehicle ***shall*** be serviced with manufacturer's standard lubricants and hydraulic fluids compatible with delivery location and season. Vehicles requiring manufacturer's special lubricants and hydraulic fluids after the break-in period will not be acceptable. It is desirable that the hydraulic system operates year round at the specified temperature extremes with only one type of hydraulic fluid.

4. INTEGRATED LOGISTIC SUPPORT

4.1 Documentation and Support Items – The Contractor ***shall*** provide the following documentation and support items.

4.1.1 Items with Each Vehicle – The Contractor ***shall*** provide the following items with each vehicle:

(a) **Vehicle Manuals** – The vehicle ***shall*** be provided with all manuals required for the safe operation, maintenance and repair of the vehicles and all sub-systems, attachments, components and accessories included in the vehicle supplied. The following manuals ***shall*** be provided:

i **Operator's Manuals** – Operator's Manuals ***shall*** be provided in a bilingual format or as 2

manuals in a single binder (one English, one French). Operators' Manual(s) ***shall*** be supplied in paper format. The Operator's Manual ***shall*** include:

1. Instructions for the safe operation of the vehicle;

2. Daily operator maintenance instructions/checks (including lubrication);

3. Safety warnings: and

4. Hand signals (as necessary).

ii **Parts Manuals** – The Parts Manuals ***shall*** be in English (French translation is desirable). The Parts Manuals ***shall*** include:

1. Illustrations showing all components of the vehicle including equipment and accessories from other manufacturers that is supplied for the requirements of the contract. The illustrations ***shall*** have numbers for the itemization of the parts;

2. A listing for all itemized manufacturer's parts showing the manufacturer's part number of the illustration, the part name and a brief description of the item; and

3. Cross reference relating the manufacturer part number to the correct figure and item number.

iii **Maintenance (Shop Repair) Manuals** - The Maintenance (Shop Repair) Manual ***shall*** be in English (French translation is desirable). The Maintenance (Shop Repair) Manuals ***shall*** include:

1. A trouble shooting guide, showing the steps and tests required to determine the exact cause of a problem and an explanation of what steps would be required to correct a problem;

2. A listing of the necessary tolerances, torque levels, fluid volumes required and a section listing any special tools (including item part numbers); and

3. Information on the order of disassembly and assembly of the systems and components of the vehicle.

iv **Manuals on CD/DVD-ROM** - A copy of the manuals on CD/DVD-ROM ***shall*** be provided, if available. This ***shall*** include all the manuals provided in clauses i, ii, and iii above. For usability, CD/DVD-ROM ***shall not*** require password and/or Internet connection to be accessed. Operator's manuals ***shall*** also be supplied in paper format.

v **Sample Manuals** – The Contractor ***shall*** deliver a set of sample manuals, including all documents in items i through iv above. The Sample Manuals ***shall*** be delivered to the Technical Authority. Sample Manuals will not be returned. In the event that manuals are dependent on first vehicle completion, Sample Manuals ***shall*** be submitted within 30 days after the pre-production vehicle approval or first production vehicle inspection. The Technical Authority will provide approval or comments on the manuals within calendar 30 days. If corrections are required, the contractor ***shall*** ensure that the Technical Authority has a complete set of corrected manuals.

Notes: In the event that the manuals are not available at time of shipment, provisional manuals

shall accompany the vehicle/equipment. Provisional manuals ***shall*** be clearly identified with the word "**PROVISIONAL**". Provisional manuals ***shall*** be replaced with approved manuals to all shipping locations within 30 calendar days of receipt of approval of manuals.

(b) **Warranty Letter** – A paper copy of the completed bilingual Warranty Letter with each vehicle shipped in the approved format. The Contractor ***shall*** send a copy of the Warranty Letter to the Technical Authority, by completing the Technical Authority provided template, for each vehicle, at shipment. Designated warranty providers ***shall*** honour the warranty letter.

(c) **Initial Parts Kit** – One Initial Parts Kit accompanying each vehicle/equipment. Each Initial Parts Kit ***shall*** include a complete set of filters and filter elements from the Original Equipment Manufacturer. The Contractor ***shall*** provide the list to the Technical Authority

4.1.2 **Documents Provided to Technical Authority** – The Contractor ***shall*** provide the following documents to the Technical Authority:

(a) **Data Summary** – A bilingual Data Summary for each make/model/ configuration by completing Technical Authority provided template with data and a vehicle picture. The Contractor ***shall*** provide a Data Summary electronically in MS-Word format, if possible, before shipment of vehicles;

(b) **Photographs** – Two (2) digital pictures, one left-front three-quarter view, and one right-rear three-quarter view of each make/model/ configuration. It is preferred that pictures have an uncluttered background. Pictures ***shall*** have a size of at least 4 Mega pixels; and

(c) **Preventive Maintenance Replacement Parts Kit List** – A list of parts needed to perform preventive maintenance on a vehicle/equipment during the first scheduled preventive maintenance. The list ***shall*** include the parts provided in the Initial Parts Kit and additional items recommended by the Original Equipment Manufacturer for review and acceptance by the Technical Authority. The list ***shall*** include the following elements:

i 1. Part description;

2. Original Equipment Manufacturer Part number;

3. Suggested quantity; and

4. Unit cost.

ii Be delivered to the Technical Authority for approval and action. The list ***shall*** be supplied in an editable electronic format, preferably as a spreadsheet.

(d) **Special Tools List** - The Contractor ***shall*** provide a list detailing the special tools required for the vehicle/equipment that would not be included in a mechanics toolbox. The list could include items such as special wrenches, or extraction devices and special diagnostic tools/software. The Special Tools List ***shall*** include the following information:

i Item name;

ii Contractor's part number;

iii Original component/equipment manufacturer's part number;

iv Original manufacturer's NATO Supply code (NCAGE) or name and address (if known);

v NSN (NATO Stock Number) (if known);

vi Quantity recommended;

vii Unit price; and

viii Unit of issue.

(e) **Recommended Spare Parts List** – The Contractor ***shall*** provide to the Technical Authority a list detailing the spare parts deemed necessary to maintain the vehicle for a period of 12 months exclusive of any warranty period. The Recommended Spare Part List ***shall***:

i Include the following information:

1. Item name;

2. Contractor's part number;

3. Original component/equipment manufacturer's part number;

4. Original manufacturer's NATO Supply code (NCAGE) or name and address;

5. NSN (NATO Stock Number) (if known);

6. Quantity per equipment;

7. Quantity recommended;

8. Unit price; and

9. Unit of issue.

ii Be delivered to the Technical Authority for review. The list ***shall*** be supplied in an editable electronic format, preferably as a spreadsheet.

(f) **Cataloguing Information** – The contractor ***shall*** provide the Technical Authority, upon request, the information necessary to catalogue the parts for the vehicle/equipment. Cataloguing Information ***shall***:

i Include the NSN of the part, if known. If the NSN is provided no other supporting technical data need be provided for that item; and

ii Include technical information, which ***shall*** be sufficient to allow DND to identify, classify and fully describe the part(s) to a NATO standard. This could include specifications, standards, drawings, or catalogues with brief description(s) of relevant dimensional, material, mechanical, electrical and physical/ performance characteristics. Drawings will not be sent to other suppliers for production.

NOTE: Drawings sent to the Technical Authority will remain the property of the contractor.

NOTE: This may require meetings between DND and the contractor to obtain and validate information.

(g) **Safety Recalls and Servicing Data** – The following information is required to be provided to all customer locations, on a continuing basis, throughout the life expectancy of the vehicle or for no less than 10 years:

i Safety Recalls; and

ii Manufacturers technical Service Bulletins, or equivalent.

NOTE: This service can be made available as an Internet Service.

4.2 **Training** – The Contractor ***shall*** perform the following training:

(a) **Training - Maintenance Personnel** – The Contractor ***shall*** provide a maintenance/repair training course. The course ***shall***$^{(E)}$ given at each delivery destination for a minimum duration of two (2) days to provide training of up to six (6) maintenance personnel. Training ***shall*** be available in both official languages for locations in the province of Quebec or when requested by The Technical Authority. The final dates ***shall*** be arranged with the Technical Authority (TA). After completion of the course the Contractor ***shall*** have a "**PROOF OF MAINTAINER TRAINING**" certificate signed by a Crown Representative. The Technical Authority will supply this document in an electronic format. The course curriculum ***shall*** include:

i Operation and maintenance safety precautions;

ii Preventive maintenance including servicing schedules (10 % of classroom time);

iii Trouble shooting, testing and adjustments (70 % of classroom time); and

iv Special tools and test equipment.

(b) **Training - Operators** – The Contractor ***shall*** provide an operator training course. The course ***shall*** be given at the delivery destination for a minimum duration of two (2) days to provide training for up to six (6) DND operators. Training ***shall*** be available in both official languages for locations in the province of Quebec or when requested by The Technical Authority. The final dates ***shall*** be arranged with the Technical Authority (TA). After completion of the course the Contractor ***shall*** have a "**PROOF OF OPERATOR TRAINING**" certificate signed by a Crown Representative for the destination. The Technical Authority will supply this document in an electronic format. The course curriculum ***shall*** include:

i Safety precautions to be observed while operating and servicing the vehicle;

ii Vehicle/equipment operating characteristics;

iii Vehicle/equipment operating procedures;

iv Pre-operating and pre-shutdown procedures;

v Daily/weekly operator servicing procedures; and

vi A minimum of two (2) hours practical operating experience per operator.

National Défense
Defence nationale

MARCH 20, 2014

Aircraft Lavatory Service Truck
ECC 189424

TECHNICAL INFORMATION QUESTIONNAIRE

This questionnaire covers technical information, which ***shall*** be provided for evaluation of the configuration(s) of the vehicle(s) offered.

Where the specification paragraphs below indicate “Proof of Compliance”, the “Proof of Compliance” ***shall*** be provided for each performance requirement/specification.

Bidders should indicate the requested information and indicate the document name/title and page number where the Proof of Compliance can be found.

Definitions for ***Equivalent*** and ***Proof of Compliance*** are found in the DEFINITIONS section at the end of this document.

CONTRACTOR INFORMATION

Contractor Name _____

Proposal Date _____

Compliance

Equipment provided complies with all specified requirements? YES☐ NO☐

Substitutes/Alternatives

Are substitutes/alternatives offered as ***Equivalent*** to any requirement specified in the Purchase Description? YES ☐ NO [

If yes, please identify all substitutes/alternatives offered as ***Equivalents*** below and indicate where in the proposal related information can be found:

_____.

_____.

_____.

_____.

_____.

_____.

_____.

_____.

_____.

Aircraft Lavatory Service Truck
ECC 189424

TECHNICAL INFORMATION QUESTIONNAIRE

Proposed Make _____ - **Model** _____

PURCHASE DESCRIPTION PARAGRAPHS

3.1 Standard Design - *Proof of Compliance*

(a) The Bidder ***shall*** provide client references for industry acceptability and/or experience as specified in the purchase description. Client references ***shall*** include client contact information, delivery location, year completed and list of make(s)/model(s).

2 years industry acceptability and/or 5 years experience can be found in: Document: _____.

- Page: ___.

3.3 Human Engineering and Safety – *Proof of Compliance*

(f) The Bidder ***shall*** provide written manufacturers certification, by a Professional Engineer that the mounted pedestal lift meets ANSI/ASSE A92.7-1990 (R1998).

3.5 Weight and Dimensions - *Proof of Compliance*

The Bidder ***shall*** provide a computer generated weight analysis calculation which ***shall*** be calculated based on a fully loaded vehicle/equipment.

a. GAWR:

Front axle weight (fully loaded) _____ , GAWR (front) _____.

Rear axle weight (fully loaded) _____ , GAWR (rear) _____.

Axle ratings can be found in: Document: _____ Page: ___.

Static weight distribution is _____ percent on the front axle and _____ percent on the rear axle and can be found in: Document: _____ Page: ___.

Weight analysis can be found in: Document: _____ - Page: ___.

3.6.1 Vehicle Performance - *Proof of Compliance*

The Bidder ***shall*** provide a vehicle performance prediction analysis a computer generated vehicle performance prediction analysis for a fully loaded vehicle which ***shall*** be performed in conformance with SAE J2188, using proposed equipment engine and transmission.

Vehicle performance prediction analysis can be found in: Document: _____ - Page: ___.

3.6.2 Aircraft Operability – *Proof of Compliance*

Bidder ***shall*** provide proof of compliance for this requirement.

Proof of compliance can be found in: Document: _____ - Page: ___.

3.7 Chassis - *Proof of Compliance*

The Bidder ***shall*** provide proof of compliance for this requirement.

Proof of compliance can be found in: Document: _____ - Page: ___.

3.8 Engine - *Proof of Compliance*

The Bidder ***shall*** provide an engine manufacturer certification.

Engine manufacturer certification can be found in: Document: _____ - Page: ___.

3.17 Body Shroud - *Proof of Compliance*

The Bidder ***shall*** provide proof of compliance for this requirement.

Proof of compliance can be found in: Document: _____ - Page: ___.

3.19.1 Sewage Tank - *Proof of Compliance*

The Bidder ***shall*** provide proof of compliance for the construction material of the sewage tank as specified in the Purchase Description.

Proof of compliance can be found in: Document: _____ - Page: ___.

3.20 Water Tank - *Proof of Compliance*

The Bidder ***shall*** provide proof of compliance for the construction material of the water tank as specified in the Purchase Description.

Proof of compliance can be found in: Document: _____ - Page: ___.

3.21 Disinfectant Solution Tank - *Proof of Compliance*

The Bidder ***shall*** provide proof of compliance for the construction material of the disinfectant solution tank as specified in the Purchase Description.

Proof of compliance can be found in: Document: _____ - Page: ___.

DEFINITIONS

1.1 **"Proof of Compliance"** - An unaltered document, such as a brochure and/or technical literature and/or a third party test report provided by a nationally and/or internationally recognized testing facility and/or a report generated by a nationally and/or internationally recognized third party software. The document ***shall*** provide detailed information on each performance requirement and/or specification. Where a document submitted as Proof of Compliance does not cover all the performance requirements and/or specifications or when no such document is available or when modifications to the original equipment or customization are required to achieve the performance requirements and/or specifications, a Certificate of Attestation (as a separate document) signed by a senior representative of the Original Equipment Manufacturer (OEM) detailing the modifications and how they meet the performance requirements and/or specifications ***shall*** be provided. The certificate ***shall*** detail all performance requirements and/or specifications required to substantiate compliance. One certificate can be provided for one or all performance requirements and/or specifications.

1.2 **"Equivalent"** - A standard, means, or component type, which has been accepted by the Technical Authority as meeting the specified requirements for form, fit, function and performance.