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**Gatineau, Québec K1A 0S5**  
**Bid Fax: (819) 997-9776**

## **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**

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

**Issuing Office - Bureau de distribution**  
**Industrial Vehicles & Machinery Products Division**  
**11 Laurier St./11, rue Laurier**  
**7B1, Place du Portage, Phase III**  
**Gatineau**  
**Québec**  
**K1A 0S5**

<b>Title - Sujet</b> Ramp Tow Tractor	
<b>Solicitation No. - N° de l'invitation</b> W8476-145004/C	<b>Amendment No. - N° modif.</b> 007
<b>Client Reference No. - N° de référence du client</b> W8476-145004	<b>Date</b> 2014-08-05
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$\$HS-597-65194	
<b>File No. - N° de dossier</b> hs597.W8476-145004	<b>CCC No./N° CCC - FMS No./N° VME</b>
<b>Solicitation Closes - L'invitation prend fin</b> <b>at - à 02:00 PM</b> <b>on - le 2014-08-07</b>	<b>Time Zone</b> <b>Fuseau horaire</b> Eastern Daylight Saving Time EDT
<b>F.O.B. - F.A.B.</b> <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input checked="" type="checkbox"/> <b>Other-Autre:</b> <input type="checkbox"/>	
<b>Address Enquiries to: - Adresser toutes questions à:</b> Bourassa, Chantal	<b>Buyer Id - Id de l'acheteur</b> hs597
<b>Telephone No. - N° de téléphone</b> (819) 956-6763 ( )	<b>FAX No. - N° de FAX</b> (819) 956-5227
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b>	

**Instructions: See Herein**

**Instructions: Voir aux présentes**

<b>Delivery Required - Livraison exigée</b>	<b>Delivery Offered - Livraison proposée</b>
<b>Vendor/Firm Name and Address</b> <b>Raison sociale et adresse du fournisseur/de l'entrepreneur</b>	
<b>Telephone No. - N° de téléphone</b> <b>Facsimile No. - N° de télécopieur</b>	
<b>Name and title of person authorized to sign on behalf of Vendor/Firm</b> <b>(type or print)</b> <b>Nom et titre de la personne autorisée à signer au nom du fournisseur/</b> <b>de l'entrepreneur (taper ou écrire en caractères d'imprimerie)</b>	
<b>Signature</b>	<b>Date</b>

Solicitation No. - N° de l'invitation

W8476-145004/C

Amd. No. - N° de la modif.

007

Buyer ID - Id de l'acheteur

hs597

Client Ref. No. - N° de réf. du client

W8476-145004

File No. - N° du dossier

hs597W8476-145004

CCC No./N° CCC - FMS No/ N° VME

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This amendment is raised to replace the Purchase Description and the Technical Information Questionnaire dated May 22, 2014 by the version dated July 31, 2014.

The changes are for points 3.5 and 3.6.2 in the Purchase Description and points 3.1, 3.5.1, 3.5, 3.6.2 and 3.15 in the Technical Information Questionnaire.

**ALL OTHER TERMS AND CONDITIONS REMAIN UNCHANGED.**

**PURCHASE DESCRIPTION  
FOR  
Ramp Tow Tractor, 2,268 KG (5,000 LB) DBP  
ECC 168105, ECC 168115**

OPI DSVPM 5 – DAPVS 5  
Issued on Authority of the Chief of the Defence Staff  
Publiée avec l'autorisation du Chef d'état-major de la Défense  
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## 1 **SCOPE**

### 1.1 **Scope**

This Purchase Description details the requirements for a ramp towing tractor in two variants. Both are diesel engine driven, 4x2 and have a 2,268Kg (5,000 lb) minimum drawbar pull. Variant I is an open cab design and Variant II is an enclosed cab design.

### 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**<sup>(E)</sup>” 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**<sup>(E)</sup>”, 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 for 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.

### 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. “Vehicle” - refers to the chassis, and parts provided with the frame before the addition of the required equipment;
- c. “Proof of Compliance” – A proof of compliance is defined as 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 engineer representing 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.

- d. "Vehicle/equipment" - refers to the completely manufactured vehicle in either variant with all related parts and equipment installed;

## **2. APPLICABLE DOCUMENTS**

### **2.1 Government Furnished Documents**

N/A

### **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:

#### **SAE Handbook**

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

#### **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/>

#### **Automotive (On-road) Diesel Fuel**

CAN/CGSB Standard 3.517-2007  
Standards Council of Canada  
270 Albert Street, suite 200  
Ottawa, ON K1P 6N7  
Canada  
<https://www.scc.ca/en>

## **3. REQUIREMENTS**

### **3.1 Standard Design**

The vehicle/equipment ***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 for this application from the original manufacturers of major equipment systems and assemblies;
- c. 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;

- d. Have system and component capacities not greater than their published ratings (i.e. product or component brochures) or accompanied by proof of compliance; and
- e. Include all components, equipment, and accessories normally supplied for this application, 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 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**

#### **3.2.1 Weather**

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

#### **3.2.2 Terrain**

The vehicle/equipment **shall** be operable on concrete and asphalt surfaces. Terrain conditions **shall** include year round operations on rain, snow, hard packed snow and ice with up to 2% slope in all weather conditions.

### **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.

### **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 **Weight Ratings**

Weight of the vehicle/equipment **shall** be sufficient to attain the specified Drawbar Pull in section 3.6.2. Static weight distribution **shall** ensure that the tow tractor stays balanced while towing the maximum load allowable and that no lift in either of the axles occurs. 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 vehicle is fully loaded; no vehicle 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 unladen vehicle **shall** achieve a speed of at least 21 km/h (13 miles/hr) on a level paved surface.

#### 3.6.2 **Drawbar Pull**

The vehicle **shall** provide a minimum Drawbar Pull of 2,268 kg (5,000 lb) on dry level concrete and **shall** tow 12,000lbs on wet level concrete. The design **shall**<sup>(E)</sup> be in accordance with SAE Air 1316.

### 3.7 **Chassis**

The chassis **shall** be of reinforced construction suitable to withstand all stresses applied on it in all operating conditions. The design **shall** provide adequate strength and torsional rigidity to ensure satisfactory operation under specified operating conditions.

### 3.8 **Engine**

The engine **shall** be liquid cooled and operate on diesel fuel to CAN/CGSB Standard 3.517-2007 type A-ULS or B-ULS without detrimental effects on the engine.

#### 3.8.1 **Engine Components**

Engine components **shall**<sup>(E)</sup> include:

- a. A dry type air cleaning system including a filter restriction gauge;
- b. Engine coolant, cool-ing system and radiator recommended by the OEM that is capable of operating within the conditions stated in section 3.2;
- c. An oil filtering system. The filter **shall**<sup>(E)</sup> be spin on type;
- d. An engine de-rating and shutdown system with an indicator light; and
- e. Any measures other than those already required by this purchase description that are necessary to adhere to the engine manufacturer's recommendations for aerial device and vehicle operation under cold weather conditions.

**3.8.2 Engine Cold Weather Aids** - Cold weather aids to enable the engine (operating with winter grade fuels/oils) to be started at temperatures down to -40° C **shall** be provided. External electrical power for engine and battery heaters **shall<sup>(E)</sup>** be a single cover-protected plug accessible without lifting engine covers. The following **shall** be included:

- a. A water separator/fuel filter incorporating an electrical heating system to preheat diesel fuel prior to starting. The heater **shall** be thermostatically controlled;
- b. An in-line fuel heater. The heater **shall<sup>(E)</sup>** be thermostatically controlled to prevent fuel temperature from rising above approximately 43° Celsius (110° Fahrenheit) and be a heat exchanger type connected to the cooling system;
- c. A low temperature starting aid. The engine **shall<sup>(E)</sup>** have glow plugs and / or intake air preheat system;
- d. 110-volt engine heater(s) with a capacity as recommended by the engine manufacturer or conforming to SAE Information Sheet J1310;
- e. 110-volt battery heater(s) having wattage matched to battery size to prevent battery damage due to overheating; and
- f. Housing the battery in an insulated battery box or heated cab.

**3.9 Fuel Tank(s)**  
The fuel tank(s) **shall<sup>(E)</sup>**:

- a. Be the manufacturers standard tank provided for this equipment;
- b. Have separate fuel gauges if more than one non-connected fuel tanks are used.; and
- c. Be at least half full when the equipment is delivered.

**3.10 Transmission**  
The transmission **shall** be the manufacturer's standard for this equipment, which **shall** be fully automatic. It **shall** be compatible with the diesel engine provided and include a safety device to ensure that the engine can only be started in the neutral or park position. The vehicle **shall** be equipped with a transmission oil cooler and backlit shift control assembly. An easily accessible transmission oil dipstick **shall** be provided.

**3.11 Axles and Suspension**  
The axles and suspension components **shall** be the manufacturer's recommended and **shall** not be loaded greater than their rated capacities during operations. The suspension **shall** maintain wheel contact with the ground over surface unevenness found on airport runways and taxiways.

**3.12 Brakes**  
The vehicle **shall** be equipped with the manufacturer's standard power assisted braking system. A dual split system with discs **shall** be acceptable. Drum brakes **shall** not be acceptable.

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**3.12.1 Parking Brake**  
The vehicle **shall** be equipped with a parking brake capable of holding the unloaded vehicle/equipment on a 10 percent gradient. The parking brake control **shall<sup>(E)</sup>** be positioned so it will not interfere with the operator or snag his clothing when entering or exiting the vehicle.

**3.13 Steering**  
The vehicle **shall** be equipped with manufacturer's standard front-wheel power steering system.



### 3.14 **Wheels, Rims and Tires**

Wheel, rim and tire requirements **shall**<sup>(E)</sup> 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.

### 3.15 **Application Equipment**

Equipment and features detailed below **shall** be provided:

- a. Two cable activated couplers, one in the front and one in the rear, with a drawbar pull of 30,000 lbs and a vertical load rating of 7,500 lbs. The cables **shall** be a wire rope and compatible with the coupler and **shall** be provided firmly affixed. The couplers **shall** be a Holland Coupler model CP-400-CA;
- b. Removable ballast, if provided, **shall**<sup>(E)</sup> consist of cast blocks or welded steel plate. Liquid or granular ballast **shall** not be provided;
- c. Anti-skid material on walking surfaces of the deck, the vehicle floor and any other surfaces that may require an operator to stand on for operation and maintenance functions, including the brake pedal.
- d. Front and rear license plate holders.

### 3.16 **Variant Specific Requirements**

#### 3.16.1 **Variant I: Without Cab**

The vehicle **shall** be equipped with the manufacturer's standard commercial open-cab two man operators' station designed for maximum visibility in all directions. The cab **shall**<sup>(E)</sup> include:

- a. Have steps for ease of access to each side of the cab. The steps **shall** have anti-skid material on the surface;
- b. Driver and passenger seats with retractable lap belt. The seats **shall** be cushioned, weatherproofed and be adjustable in the fore and aft directions;
- c. Be equipped with a loud electric horn;
- d. Be equipped with the manufacturer's standard instruments. All gauges, instruments and operator controls **shall** be weatherproofed;
- e. Be equipped with a 2.3 kg (5 lb) ULC approved and rechargeable dry chemical fire extinguisher with a minimum rating of 3A10BC equipped with a pressure gauge and service inspection tag, mounted externally and readily accessible by the operator.

#### 3.16.2 **Variant II: With Cab**

The vehicle **shall** be equipped with the manufacturer's standard commercial two man enclosed cab designed for maximum visibility in all directions. The cab **shall**<sup>(E)</sup> include:

- a. Have steps for ease of access to each side of the cab. The steps **shall** have anti-skid material on the surface;
- b. Have a ventilation/heater and defrosting system with multi-speed fan control to keep all cab windows free from frost and moisture;
- c. Driver and passenger seats with retractable lap belt. The seats **shall** be cushioned, weatherproofed and be adjustable in the fore and aft directions;
- d. Have safety glass windows. The glass **shall** be tinted to reduce solar heating load and **shall<sup>(E)</sup>** be equipped with a minimum of two adjustable sun visors and a sliding rear cab window;
- e. Have two speed wipers with intermittent wipe feature to clear 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. The windshield washer system **shall** be electronically operated with a large capacity, easily accessible reservoir;
- f. Have two lockable metal doors with sliding door windows equipped with two position détente style door stops, or one door and both visibly labelled windows as an emergency operator escape routes;
- g. Two heavy-duty heated exterior mirrors. Mirror glass **shall<sup>(E)</sup>** be replaceable and **shall<sup>(E)</sup>** include convex mirrors mounted on the lower portion on each mirror assembly;
- h. Be equipped with a loud electric horn;
- i. Be equipped with the manufacturer's standard instruments. All gauges, instruments and operator controls **shall** be weatherproofed;
- j. Be equipped with a 2.3 kg (5 lb) ULC approved and rechargeable dry chemical fire extinguisher with a minimum rating of 3A10BC equipped with a pressure gauge and service inspection tag, mounted externally and readily accessible by the operator.

### 3.17 **Controls**

The vehicle **shall** be equipped with the manufacturer's standard controls. Left hand drive controls **shall** be provided.

### 3.18 **Instrumentation**

The instrumentation in the vehicle cab **shall<sup>(E)</sup>** include:

- a. Engine tachometer;
- b. Speedometer and odometer reading in metric units;
- c. Fuel gauge or gauges;
- d. Oil pressure gauge;
- e. An engine coolant temperature gauge;
- f. An alternator charge gauge with a clear indication that the battery is charging or discharging;
- g. A direct reading hour-meter with registration of at least 9999 hours of operation. The hour-meter **shall** only operate while the engine is actually running;

- h. A transmission oil temperature gauge or overheat indicator; and
- i. A red light to indicate when the parking brake is applied.

### 3.19 **Electrical System**

The vehicle **shall** be equipped with a 12 volt electrical system. The system **shall**<sup>(E)</sup> include:

- a. Heavy-duty maintenance free batteries. The batteries are to be mounted in an accessible well-protected location that includes adequate hold downs and heat shielding if necessary;
- b. A backup alarm;
- c. A master switch, which effectively cuts off any flow of electricity from the batteries to protect the entire electrical system of the vehicle except for components requiring retained power. A manual control for this switch **shall**<sup>(E)</sup> be readily accessible from the ground. The "live" wire **shall** be as short as possible and **shall** be protected;
- d. Electrical circuits protected with fuses, relays, or circuit breakers; and
- e. Wiring protected by insulating grommets where passing through metal.

### 3.20 **Lighting**

The vehicle/equipment lights **shall**<sup>(E)</sup>:

- a. Include LED type signal, marker, tail, stop, clearance, licence plate, interior cab and back-up lights;
- b. Include conspicuity tapes on all four corners of the vehicle and top four corners of the cab roof (Variant II) at a minimum;
- c. Be recessed or otherwise protected from damage with all components easily accessible for servicing;
- d. Include LED or Halogen headlights;
- e. For Variant II include one amber coloured LED strobe light mounted on the cab roof. Switch mounted within the cab **shall** operate the beacon light; and
- f. Include dimmable instrument panel lamps.

### 3.21 **Corrosion Protection**

The following **shall** apply:

- a. Dissimilar metals **shall** be protected against galvanic corrosion;
- b. A rust prevention coating **shall** be applied to areas to be protected **shall**<sup>(E)</sup> include but not limited to: underside of fenders, enclosed and boxed-in sections, seams, mouldings, crevices, weld points, underbody and exposed exterior brackets.
- c. The product applied **shall**<sup>(E)</sup> be a commercial product such as Krown Rust Control T-40, or Rust Check.
- d. A decal and warranty papers **shall**<sup>(E)</sup> accompany each vehicle; and

- e. All fasteners used by the contractor **shall**<sup>(E)</sup> be stainless steel, brass, zinc-plated, or hot dipped galvanized.
- 3.22 **Lubricants and Hydraulic Fluids**  
The vehicle **shall** be serviced with the manufacturer's standard lubricants and hydraulic fluids.
- 3.23 **Exterior Paint**  
The vehicle **shall**<sup>(E)</sup> be painted using manufacturer's standard commercial paint. The colour **shall**<sup>(E)</sup> be High Visibility Yellow suitable for operations on an airfield. The prime coating **shall** be a high-durability, corrosion-resistant type. The prime coating **shall**<sup>(E)</sup> be epoxy type or baked powder coat.
- 3.24 **Identification Plate**  
An identification plate on **shall** be permanently marked in a conspicuous and protected location:
  - a. Manufacturer's name, model, model year and serial number;
  - b. Manufacturer's Vehicle Identification Number (VIN), where applicable; and
  - c. GAWR and GVWR.
- 3.25 **Warning and Instruction Plates**  
International symbols and / or bilingual markings **shall** be provided for all identification, instructional, and warning labels. Instructions for special procedures to be followed **shall** be provided, within easy view of the user. The following items **shall** be provided:
  - a. Detailed operating instructions for all operations;
  - b. Labeling all gauges, controls, system service points.
- 4. **Integrated Logistic Support**
- 4.1 **Documentation and Support Items**  
The Contractor **shall** provide the following documentation and support items.
- 4.1.1 **Deliverable Information**  
The Contractor **shall** provide the deliverable information with each vehicle:
  - a. 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, in electronic format, to the Technical Authority for each vehicle, at shipment. Warranty information and certification for corrosion protection **shall** be provided. Designated warranty providers **shall** honour the warranty letter.
  - b. Vehicle Manuals – The Vehicle **shall** be provided with manuals required for the safe operation, maintenance, and repair of the vehicle, sub-systems, attachments, components, and accessories supplied. Manuals **shall** be provided in accordance with the terms of the contract. The following manuals **shall** be provided:
    - I. Operator's Manual - Operator's manual **shall** be provided in a bilingual format or as two manuals in a single binder (one English, one French). The operator's manual **shall** contain the following information:
      - 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 Manual - The Parts Manual **shall** be in English (French translation is desirable). The Parts Manual **shall** contain the following information:
1. Illustrations showing all components of the vehicle including equipment and accessories from other manufacturers that is supplied against the requirements of the contract. The illustrations **shall** have numbers for the itemization of the parts;
  2. A listing for all itemized parts showing the manufacturer's part numbers (including Original Equipment Manufacturer's) of the illustration, the part name, and a brief description of the item; and
  3. Cross reference relating all part numbers (including Original Equipment Manufacturer's) to the correct figure and item number.
- III. Maintenance (Shop Repair) Manual - The Maintenance (Shop Repair) Manual **shall** be provided in English (French translation is desirable). The Maintenance (Shop Repair) Manual **shall** contain the following information:
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, and fluid volumes required.
  3. A section listing any special tools (including item part numbers) required **shall** be included; and
  4. Information on the order of disassembly and assembly of the systems and components of the vehicle.
- c. Equipment Manuals – All Equipment provided by the prime contractor and added to the vehicle **shall** have their own set of manuals. These **shall** include:
- I. Operating Instructions with all the elements given in paragraph 4.1.1.b.i and information on the operating instructions and configurations that provide stable operation of the vehicle;
  - II. Parts Manual with all the elements given in paragraph 4.1.1.b.ii; and
  - III. Maintenance Manual (Shop Repair) with all the elements given in paragraph 4.1.1.b.iii.
- d. Manuals on CD/DVD-ROM - A copy of the manuals on CD/DVD-ROM **shall** be provided. This **shall** include all the manuals provided in clauses 4.1.1 (b) and (c) above. Manuals on CD/DVD-ROM **shall**<sup>(E)</sup> be interactive so that a maintainer can troubleshoot, disassemble and determine the part numbers required with a minimum of searching. The manuals in electronic format **shall** include the ability for a full search. The Technical Authority **shall** approve the electronic manual format. Operators' manual(s) **shall** also be supplied in paper format. For usability, CD/DVD-ROM **shall not** require password and/or Internet connection to be accessed.

- e. Sample Manuals – The Contractor **shall** deliver a set of sample manuals, in electronic format only, including all documents in items 4.1.1 (b) and (c) above. The sample manuals **shall** be delivered to the LCMM. Sample manuals will not be returned. In the event that manuals are dependent on first vehicle completion, sample manuals **shall** be submitted within thirty (30) days after the pre-production vehicle approval or first production vehicle inspection. The Crown **shall** provide approval or comments on the manuals within thirty (30) days.

**NOTES:**

1. No information on methods or location for spare parts ordering **shall** be included in the manuals. Warranty Information in the manuals **shall** be identical to the warranty requirements of the contract.
2. The Government of Canada reserves the right to translate and reproduce, for government use only, all or any part of the publications supplied.
3. The Contractor is requested to maintain the delivery schedule of the manuals to the same as the vehicle/ equipment. 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 thirty (30) calendar days of receipt of approval of manuals.

**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’s template with data and a vehicle picture. The Contractor **shall** provide a Data Summary, if possible, before shipment of the vehicle.
- b. Photographs – Three (3) digital pictures, one left-front three-quarter view, one right-rear three-quarter view, and one of the control panel. It is preferred that pictures have an uncluttered background. Pictures **shall** have a size of at least 4 Mega pixels.
- c. 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, for each configuration. For each part listed, the following elements **shall** be included:
  - I. Part description;
  - II. Original Equipment Manufacturer;
  - III. Original Equipment Manufacturer Part Number;
  - IV. Suggested quantity; and
  - V. Unit cost.
- d. List of Special Tools – The Contractor **shall** provide a list detailing the special tools required for the vehicle that would not be included in a mechanics toolbox. This would include items such as special wrenches or extraction devices and special diagnostic tools/software. For each item listed the following elements **shall** be included:
  - I. Part description;

- II. Original Equipment Manufacturer;
  - III. Original Equipment Manufacturer Part Number;
  - IV. Suggested quantity; and
  - V. Unit cost.
- e. Preventive Maintenance Replacement Parts Kit List - A list of parts and specialty tools 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. Part description;
  - II. Original Equipment Manufacturer Part number;
  - III. Suggested quantity; and
  - IV. Unit cost.

#### 4.2 **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.

#### 4.3 **Training**

The Contractor **shall** perform the following training:

- a. Training - Maintenance Personnel - The Contractor **shall** provide a maintenance/repair training course. The course **shall** be given at the delivery destination. It **shall** have a minimum duration of one (1) day to provide training of up to eight (8) maintenance personnel and **shall** have the final dates arranged with the Life Cycle Material Manager (LCMM). The course **shall** have a syllabus or course outline and schedule available for review seven (7) days prior to the course commencement date. After completion of the course, the Contractor **shall** have a “**PROOF OF MAINTAINER TRAINING**” certificate signed by a Crown Representative for the destination. The Technical Authority **shall** supply this document in an electronic format. The following items **shall** be included in the curriculum:
- I. Operator’s training detailed in 4.3(b)vi below;
  - II. Operation and maintenance safety precautions;
  - III. Preventive maintenance including servicing schedules (10 % of classroom time);
  - IV. Trouble shooting, testing, and adjustments (70 % of classroom time); and
  - V. 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. It **shall** have minimum duration of one (1) day to provide training for up to six (6) DND operators and **shall** have the final dates arranged with the Life Cycle Material Manager (LCMM). The course **shall** have a syllabus or course outline and schedule available for review seven (7) days prior to the course commencement date. 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 **shall** supply this document in an electronic format. The following items **shall** be included in the curriculum:

- 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.
- c. **Training Materials** – For all training provided by the Contractor, for each attendee, the Contractor **shall** provide training syllabi, which **shall** include, at least:
- I. A list of topics to be covered;
  - II. An approximate timetable showing when topics are scheduled to be covered and how much time is scheduled for each topic; and
  - III. Lists any reference material.
  - IV. Make available any reference material used.





**Ramp Tow Tractor, 2,268 KG (5,000 LB) DBP  
ECC 168105, ECC 168115**

**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 \_\_\_\_\_

**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:

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

**Ramp Tow Tractor, 2,268 KG (5,000 LB) DBP  
ECC 168105, ECC 168115**

**TECHNICAL INFORMATION QUESTIONNAIRE**

**Proposed Make** \_\_\_\_\_ **- Model** \_\_\_\_\_

**PURCHASE DESCRIPTION PARAGRAPHS**

**3.1 Standard Design - Proof of Compliance**

- a. The Bidder **shall** provide client information for industry acceptability and/or experience as specified in the purchase description.

Client information **shall** include:

- Client name and location
- Year completed
- List of make(s)/model(s).

Client information can be found in: Document: \_\_\_\_\_, Page: \_\_\_\_.

**3.5 Weight Ratings - Proof of Compliance**

Static weight distribution is:

Front Axle: \_\_\_\_\_.

Rear Axle: \_\_\_\_\_.

- a. GAWR:

Front axle weight (fully loaded) \_\_\_\_\_, GAWR (front) \_\_\_\_\_.

Rear axle weight (fully loaded) \_\_\_\_\_, GAWR (rear) \_\_\_\_\_.

Weight distribution and axle ratings 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. A product brochure **shall** not be accepted as proof of compliance for this requirement.

Vehicle performance prediction analysis can be found in: Document: \_\_\_\_\_ - Page: \_\_\_\_.

**3.6.2 Drawbar Pull – Proof of Compliance**

The bidder **shall** demonstrate how the proposed equipment meets the Drawbar Pull requirement as proof of compliance.

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: \_\_\_\_.

## **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.