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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

Title - Sujet WHEELED CRANE	
Solicitation No. - N° de l'invitation W8476-155300/B	Date 2015-09-24
Client Reference No. - N° de référence du client W8476-155300	
GETS Reference No. - N° de référence de SEAG PW-\$\$HS-629-68057	
File No. - N° de dossier hs629.W8476-155300	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2015-11-03	Time Zone Fuseau horaire Eastern Daylight Saving Time EDT
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input checked="" type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Dicaire, Sylvie	Buyer Id - Id de l'acheteur hs629
Telephone No. - N° de téléphone (819) 956-6629 ()	FAX No. - N° de FAX (819) 956-5227
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: <div>Specified Herein Précisé dans les présentes</div>	

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

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

Solicitation No. - N° de l'invitation

W8476-155300/B

Amd. No. - N° de la modif.

File No. - N° du dossier

hs629W8476-155300

Buyer ID - Id de l'acheteur

hs629

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

W8476-155300

CCC No./N° CCC - FMS No/ N° VME

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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.

APPENDIX 1

TECHNICAL INFORMATION QUESTIONNAIRE
CRANE, INDUSTRIAL, CARRY DECK

This questionnaire covers technical information, which **shall** be provided for evaluation of the configuration of the vehicle 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 _____

Address _____

Proposal Date _____

Substitutes/Alternatives

Please identify all equipment substitutes/alternatives offered as **Equivalents** below:

Revisions		
Rev	Date	Description
A	2015/08/10	Initial Release

OPI DSVPM 4 - DAPVS 4

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Publiée avec l'autorisation du Chef d'état-major de la Défense



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Vehicle Make: _____ - Model _____

CAPABILITY COMPLIANCE TABLE

CLAUSE	CHARACTERISTIC	VALUE	UNIT	DOCUMENT TITLE	PAGE
3.4.1 (a)	FORWARD SPEED		km/h		
3.4.1 (b)	GRADEABILITY SPEED		km/h		
3.4.1 (c)	TURNING CIRCLE - WALL TO WALL		mm		
3.4.2 (a)	LIFT AT 3m		kg		
3.4.2 (a)	LIFT AT 6m		kg		
3.4.2 (a)	LIFT AT 10m		kg		
3.4.2 (a)	LIFT AT 12m		kg		
3.4.2 (b)	PICK AT 3m		kg		
3.4.2 (b)	PICK AT 6m		kg		
3.4.2 (b)	PICK AT 7.5m		kg		
3.4.2 (c)	CARRY AT 3m		kg		
3.4.2 (c)	CARRY AT 6m		kg		
3.4.2 (c)	CARRY AT 7.5m		kg		
3.4.3 (a)	VEHICLE WEIGHT		kg		
3.4.3 (b)	VEHICLE WIDTH		mm		
3.4.3 (c)	VEHICLE HEIGHT		mm		
3.4.3 (d)	VEHICLE LENGTH		mm		
3.5 (f)	SINGLE LINE PULL		kg		
3.5 (d)	SWING AWAY JIB		mm		

DEFINITIONS

The following definitions apply to the interpretation of this Technical Information Questionnaire:

- a) "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.
- b) "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.



NOTICE

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AVIS

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

ANNEX B

PURCHASE DESCRIPTION
CRANE, INDUSTRIAL, CARRY DECK

1. SCOPE

1.1 **Scope** - This purchase description covers the requirements for a wheeled, industrial, hydraulic crane.

1.2 Instructions

- (a) Requirements, which are identified by the word "**shall**", **shall** be treated as mandatory. Deviations will not be permitted;
- (b) Requirements identified with a "will" define actions to be performed by Canada and require no action/obligation on the Contractor's part;
- (c) Where "**shall**" or "will" are not used, the information provided is for guidance only;
- (d) Where technical certification is required, a copy of the certification or an acceptable proof of compliance **shall** be provided, upon request, at no cost to Canada; and
- (e) Nominal dimensions **shall** be treated as approximate. 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

- (a) "**Technical Authority**" **shall** mean the official responsible for the technical content of this requirement; and
- (b) "**Equivalent**" **shall** mean a standard, means, or component type, which the **Technical Authority** has approved for this requirement, in writing, as meeting the specified requirements for function and performance.

Revisions		
Rev	Date	Description
A	2015/03/06	Initial Release
B	2015/08/10	Changes to Paragraph 3.13.1, Crane Controls.

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1.4 **Configuration Capability Table** - The following table shows required performance and dimensions with a clause reference.

CHARACTERISTIC	CLAUSE	UNITS	Configuration A
FORWARD SPEED	3.4.1 (a)	km/h	20
GRADEABILITY SPEED	3.4.1 (b)	km/h	1.5
TURNING CIRCLE - WALL TO WALL	3.4.1 (c)	mm	11,000
LIFT AT 3m	3.4.2 (a)	kg	8,000
LIFT AT 6m	3.4.2 (a)	kg	3,500
LIFT AT 10m	3.4.2 (a)	kg	1,300
LIFT AT 12m	3.4.2 (a)	kg	1,000
PICK AT 3m	3.4.2 (b)	kg	1,400
PICK AT 6m	3.4.2 (b)	kg	750
PICK AT 7.5m	3.4.2 (b)	kg	600
CARRY AT 3m	3.4.2 (c)	kg	2,250
CARRY AT 6m	3.4.2 (c)	kg	700
CARRY AT 7.5m	3.4.2 (c)	kg	600
VEHICLE WEIGHT	3.4.3 (a)	kg	15,000
VEHICLE WIDTH	3.4.3 (b)	mm	2,800
VEHICLE HEIGHT	3.4.3 (c)	mm	3,000
VEHICLE LENGTH	3.4.3 (d)	mm	8,500
SINGLE LINE PULL	3.5 (f)	kg	3,200
SWING AWAY JIB	3.5 (d)	mm	3,000

2. **APPLICABLE DOCUMENTS**

2.1 **Government Furnished Documents** - NOT APPLICABLE

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:

Canada Occupational Health and Safety Regulations
Government of Canada / Department of Justice
<http://laws-lois.justice.gc.ca/eng/regulations/SOR-86-304/index.html>

CAN/CSA Z107.56-06
Procedures for the Measurement of Occupational Noise Exposure
Canadian Standards Association
5060 Spectrum Way, Suite 100
Mississauga, Ontario, L4W 5N6
<http://www.csa.ca/cm/ca/en/home>

Hazardous Products Act
Government of Canada / Department of Justice
<http://laws-lois.justice.gc.ca/eng/acts/H-3/>

International Organization for Standardization (ISO)

ISO Central Secretariat
1, ch. de la Voie-Creuse
CP 56, CH-1211 Geneva 20
Switzerland
<http://www.iso.org/iso/home.htm>

SAE Standards

SAE World Headquarters
400 Commonwealth Dr.,
Warrendale, PA, 15096-0001
<http://www.sae.org>

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>

CAN/CSA-Z150

Canadian Standards Association
178 Rexdale Boulevard
Toronto, Ontario, Canada N9W 1R3
<http://www.csa.ca>

3. REQUIREMENTS

3.1 Standard Design

- (a) The vehicle **shall** be the latest model from a manufacturer who has demonstrated acceptability by selling, in North America, this type and size class of vehicle for at least three (3) years;
- (b) The vehicle **shall** have engineering certification available, upon request, at no cost to Canada, for this application from the original manufacturers of major equipment, systems and assemblies;
- (c) The vehicle **shall** conform to all applicable laws, regulations and industrial standards governing manufacture, safety, noise levels and pollution in effect in Canada at the time of manufacture; and
- (d) The vehicle **shall** not have systems and components operating at capacities beyond those published by the system or component manufacturer.

3.2 Operating Conditions

3.2.1 Weather - The vehicle **shall** operate under the extremes of weather conditions found in Canada in temperatures ranging from -15 to 37° C.

3.2.2 Terrain - The vehicle **shall** operate on use-roughened concrete floors, deteriorated outdoor paved and compacted gravel surfaces.

3.3 Safety Standards

3.3.1 Noise Level - The vehicle noise levels **shall** meet the requirements of legislation relative to Canada Occupational Safety and Health Regulations (paragraph 7.4) both at the operator's station and exterior to the vehicle for exposures of 8 hours during a 24 hour period. Measurements **shall** be taken in accordance with CAN/CSA Z107.56-06.

3.3.2 Hazardous Materials - The contractor **shall** minimize or eliminate the use of hazardous materials, ozone depleting substances, polychlorinated biphenyls, asbestos and heavy metals (as described in the Hazardous Products Act of Canada) used in the manufacture and assembly of the product supplied.

3.3.3 Safety Requirements

- (a) The vehicle **shall** comply with the current CSA Standard Z150 - Safety Code on Mobile Cranes; and
- (b) If the vehicle chassis falls within a prescribed class per Canada Motor Vehicle Safety Regulations (CMVSS), the vehicle **shall** meet the applicable CMVSS requirements for the given vehicle class.

3.4 Performance

3.4.1 Travel Performance

- (a) The vehicle, equipped for maximum lift specified, **shall** have a forward speed of at least that given as "**FORWARD SPEED**" in the Configuration Capability Table;
- (b) The vehicle, equipped for maximum lift specified, **shall** have a gradeability of at least 40 per cent while travelling at a speed of at least that given as "**GRADEABILITY SPEED**" in the Configuration Capability Table, on good Class I roads when calculated in accordance with SAE J688; and
- (c) The vehicle, equipped for maximum lift specified, **shall** be capable of turning between two parallel vertical walls separated by a distance of not more than that given as "**TURNING CIRCLE - WALL TO WALL**" in the Configuration Capability Table when tested in accordance with SAE J695. The dimension **shall** be measured to the most extreme point on the vehicle chassis and **shall** not include the boom or any accessory attached to the boom.

3.4.2 Lift Performance - Crane capacities **shall** be calculated in accordance with CSA Standards. When published lift distance is different than requested evaluation distance the next higher published value will be used for evaluation. The boom **shall** have 360-degree continuous rotation at a speed of no less than 1 revolution per minute.

- (a) Outriggers Deployed - The crane **shall** have the following minimum capacities, with the outriggers deployed, through 360-degree rotation at 80 percent of balance point capacity, counterweights installed:

- i At least that given as "**LIFT AT 3m**" at 3.0 m radius in the Configuration Capability Table;

- ii At least that given as "**LIFT AT 6m**" at 6.0 m radius in the Configuration Capability Table;
 - iii At least that given as "**LIFT AT 10m**" at 10.0 m radius in the Configuration Capability Table; and
 - iv At least that given as "**LIFT AT 12m**" at 12.0 m radius in the Configuration Capability Table.
- (b) **Lift on Rubber** - The crane *shall* have the following minimum capacities, with any outriggers retracted, through 360-degree rotation at 75 percent of balance point capacity, counterweights installed for lifting on wheels:
- i At least that given as "**PICK AT 3m**" at 3.0 m radius in the Configuration Capability Table;
 - ii At least that given as "**PICK AT 6m**" at 6.0 m radius in the Configuration Capability Table; and
 - iii At least that given as "**PICK AT 7.5m**" at 7.5 m radius in the Configuration Capability Table.
- (c) **Pick and Carry** - The crane shall have the following capacities over the front or rear, at 1.4 km/h at 75 per cent of balance point capacity, counterweights installed:
- i At least that given as "**CARRY AT 3m**" at 3.0 m radius in the Configuration Capability Table;
 - ii At least that given as "**CARRY AT 6m**" at 6.0 m radius in the Configuration Capability Table; and
 - iii At least that given as "**CARRY AT 7.5m**" at 7.5 m radius in the Configuration Capability Table.
- 3.4.3 **Dimensions and Weights**- The vehicle, in its standard configuration *shall* have the following dimensions and weights:
- (a) Gross vehicle weight of not more than that given as "**VEHICLE WEIGHT**" in the Configuration Capability Table;
 - (b) Overall width, outriggers retracted, of not more than that given as "**VEHICLE WIDTH**" in the Configuration Capability Table;
 - (c) Overall height, of not more than that given as "**VEHICLE HEIGHT**" in the Configuration Capability Table; and
 - (d) Overall length, boom retracted, of not more than that given as "**VEHICLE LENGTH**" in the Configuration Capability Table.

3.4.4 **Crane Certification**

- (a) The crane *shall* be certified to the standard of the country of origin as well as to the latest relevant CSA standards; and

- (b) The Contractor **shall** provide testing and inspection dates to the Technical Authority. The Technical Authority reserves the right to observe (or to send a representative of DND to observe) any inspection and testing required for CSA Certification.

3.5 Equipment

(a) Boom

- i The crane **shall** be equipped with a hydraulically operated, full power-telescoping boom; and
- ii The boom **shall** have a boom tip with hook block capable of lifting the maximum rated load.

(b) Outriggers

- i The crane **shall** be equipped with at least four hydraulically operated outriggers;
- ii The outriggers **shall** be capable of supporting the crane with all wheels off the ground while hoisting all rated loads in all positions;
- iii The outriggers **shall** hold the required position and not require repositioning during operations; and
- iv The outriggers **shall** have controls conveniently located in the crane operator's cab.

(c) Main Hoist

- i The crane **shall** be equipped with a main hoist; and
- ii The main hoist **shall** have motor, gearing, brakes, controls, line pull, speed and wire rope strength and capacity in accordance with CSA Standard Z150.

(d) Swing-Away Jib

- i A swing-away jib **shall** be provided; and
- ii The length of the jib **shall** be at least that given as "SWING AWAY JIB" in the Configuration Capability Table. An extendable swing-away jib whose length extended satisfies the length requirements will be accepted as equivalent.

(e) Hook Block

- i A swivel type hook block **shall** be provided;
- ii The hook **shall** be equipped with a safety latch; and
- iii The rated capacity of the hook block **shall** meet or exceed the maximum lifting capacity of the vehicle.

(f) **Single-Line Ball Hook**

- i A single-line "overhaul" type ball hook **shall** be provided; and
- ii The single-line ball hook and line **shall** have a capacity of at least that given as "SINGLE LINE PULL" in the Configuration Capability Table.

(g) **Carry Deck** - The crane **shall** be equipped with a carry deck extending forward of the cab, the deck **shall** be flat. The carry deck **shall** be the full width of the vehicle and **shall** be located a safe distance forward of the cab;

(h) **Grounding Attachment Points**

- i The vehicle **shall** be equipped with grounding attachment points;
- ii There **shall** be one grounding attachment point at the front and one at the rear;
- iii The grounding attachment points **shall** permit an alligator clamp to be attached to the vehicle for grounding;
- iv The attachment of an alligator clamp to either of the attachment points **shall** not interfere with the operation of the crane; and
- v The grounding attachment points **shall** be clearly marked and accessible to an operator at ground level.

(i) **Grounding Reels**

- i Two heavy-duty, automatic controlled rewind static electricity grounding reel assembly and clamp installed one at the front and one at the rear **shall** be provided. The preferred type reel is Ametek Model 2930;
- ii Installation of grounding reel assemblies **shall** not interfere with crane operation; and
- ii The reels **shall** have at least 15 m of cable.

(j) **Rear-Mounted Pintle Hook**

- i A rigid pintle hook mounted at the rear of the vehicle **shall** be provided. It is preferred that the pintle has the capacity to tow a trailer of at least 75% of the weight of the vehicle; and
- ii The pintle hook **shall** be capable of accommodating a lunette with a nominal internal diameter of 76 mm and a nominal material thickness of 41 mm.

(k) **Front-Mounted Pintle Hook**

- i A rigid pintle hook mounted at the front of the vehicle **shall** be provided. It is preferred that the pintle has the capacity to tow a trailer of at least 75% of the weight of the vehicle; and

- ii The pintle hook **shall** be capable of accommodating a lunette with a nominal internal diameter of 76 mm and a nominal material thickness of 41 mm.

(l) **Capacity Charts**

- i Safe load capacity charts, indicating all safe loads in both metric and imperial units, **shall** be affixed inside the operator cab;
- ii The capacity charts **shall** show the manufacturer's standard rating for this crane; and
- iii The capacity charts **shall** be bilingual or use international symbols.

(m) **Tie-Down/Transport/Recovery Devices**

- i Permanent and integrally mounted devices **shall** be provided to prevent shifting or movement during transport on low-bed trailers, rail cars and aboard ships and for lifting and recovery operations;
- ii The devices **shall** be designed for forward thrust of 4 G, a rearward thrust of 4 G, an upward thrust of 2 G and a side thrust of 1.5 G (1 G = shipping weight of the equipment). These loads are not imposed simultaneously;
- iii If the devices have eyes, these eyes **shall** have a nominal inside diameter of no less than 76 mm for lifting operations;
- iv The devices **shall** be located and sized to permit attachment of cables or turnbuckles;
- v The devices **shall** be identified and marked with maximum load permitted adjacent to the tie-downs using a contrasting colour; and
- vi The operation and use of these devices **shall** be included in the manuals. It is preferred that this information be marked in the vehicle cab (in the form of decals).

- (n) **Filler Caps** - Permanently marked filler caps, which identify the contents using international symbols or in French and English, **shall** be provided.

- (o) **Non-Skid Walking Surfaces** - All walking surfaces **shall** be covered with a coarse non-skid coating for operator safety.

- (p) **Fire Extinguisher** - A 2.2 kg dry chemical extinguisher **shall** be provided in a readily accessible location.

3.6 **Operator Station**

(a) **Cab**

- i. The operator station **shall** include a fully enclosed weatherproof, metal framed, insulated and soundproof cab;
- ii The cab **shall** have a heating, ventilation and defrosting system capable of keeping windows free from frost and moisture;
- iii The cab **shall** have safety glass in windows providing above and all around visibility. It is preferred that the glass be clear, however, lightly tinted glass is acceptable;
- iv The cab **shall** have electrically power actuated windshield wipers for the front windows with a windshield washer. The front windshield wiper **shall** have 2 speeds preferably with an intermittent setting;
- v The cab **shall** have two doors, or one door and at least one window that may be quickly opened and removed as an operator escape route in an emergency. Emergency exits **shall** be visibly labelled; and
- vi The cab **shall** include a skylight for the craning station, so the operator can see the load in any position.

(b) **Seat**

- i The operator station **shall** include a seat and backrest in conformance with SAE J899;
- ii The seat **shall** be selected to be comfortable for an operator who may be operating the vehicle for extremely long periods and have seat material being a breathable fabric or a mesh surface; and
- ii The seat **shall** be equipped with seat belts conforming, as a minimum, to SAE J386.

- (c) **Mirror(s)** - The operator station **shall** include adjustable rear view mirror(s) positioned to provide a full view of both sides of the vehicle and towards the rear to ensure visibility while operating the vehicle in reverse.

3.7 **Chassis** - The vehicle chassis **shall** be the manufacturer's standard for a vehicle of this type and size.

3.8 **Engine** - The manufacturer's standard diesel engine **shall** be provided.

3.8.1 **Engine Components** - Engine components **shall** be manufacturer's standard.

3.8.2 **Fuel Tank(s)** - The fuel tank(s) **shall** be the manufacturer's standard.

3.8.3 **Engine Cold Weather Aids**

- (a) 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 -30° C;

- (b) A low temperature engine starting aid **shall** be provided. The engine **shall** have one of the following systems; ether injection, glow plug(s), intake air preheat or **Equivalent**;
- (c) One or more 110-Volt engine heaters **shall** be provided. The engine heaters **shall** have a capacity as recommended by the engine manufacturer or conforming to SAE J1310; and
- (d) **Fuel-Fired Pre-Heater**

- i A fuel-fired engine coolant preheat system **shall** be provided; and
- ii The fuel-fired pre-heater **shall** be equipped with a timer.

3.9 **Transmission** - The vehicle **shall** be equipped with the manufacturer's standard transmission.

3.10 **Brake System** - The vehicle **shall** be equipped with manufacturer's standard braking system.

3.11 **3-Mode Steering**

- (a) The steering system **shall** have the following three modes:
 - i Front wheel steer;
 - ii Coordinated (all wheel) steer; and
 - iii Crab type steer.
- (b) Steering position and mode indicators **shall** be located in a position readily visible to operator.

3.12 **Wheels, Rims and Tires** - The wheels, tires and rims **shall** be capable of withstanding induced loads during "Lift on Rubber" and "Pick and Carry" scenarios described in paragraph 3.4.

3.12.1 **Tire Pressure Monitoring System**

- (a) The crane **shall** be equipped with a wired or wireless tire pressure monitoring system;
- (b) The sensors **shall** have replaceable batteries, if applicable;
- (c) The tire pressure monitoring system **shall** include a monitor permanently mounted in the cab, visible to the operator; and
- (d) The system **shall** turn off automatically when the vehicle is turned off.

3.13 **Controls** - Controls **shall** be manufacturer's standard including a safety device ensuring that engine can only be started with the transmission in a neutral position and a throttle control positioned for convenient operation.

3.13.1 Craning Control

- (a) All controls for craning **shall** be located in the crane operator's cab within easy reach of the operator;
- (b) The crane **shall** be equipped with all the controls and indicators for safe crane operation. This **shall** include controls and instruments for the boom, hoist, telescoping, outriggers and turntable; and
- (c) The crane **shall** be equipped with an anti two-block device for safe operation of the crane and to prevent damage or injury due to two blocking.

3.13.2 Load Moment Indicator - The Load Moment Indicator (LMI) including all the functions to maintain a safe operating condition for the operator. Operator intervention to maintain safe operating conditions **shall** not be required. It is preferred that the instrumentation has a back-lit LCD display; and

3.13.3 Rated Capacity Limiter - A Rated Capacity Limiter (RCL). The RCL **shall** indicate the load on the hook and stop the operator from overloading the crane. It is preferred that the instrumentation has a back-lit LCD display.

3.14 Instruments - Instruments **shall** be manufacturer's standard including a digital read-out hour-meter, which displays accumulated running time of at least 9,999 hours.

3.15 Electrical System - The vehicle **shall** be equipped with the manufacturer's standard electrical system, which **shall** include:

- (a) Warning Horn - A readily accessible driver-operated warning horn; and
- (b) Back-Up Alarm System - A back-up alarm system to alert personnel that the vehicle is in back-up mode.

3.16 Lighting - The vehicle lighting **shall** be the manufacturer's standard. The vehicle lighting **shall** include:

- (a) Amber Coloured Strobe Light - An amber coloured omni-directional beacon either on continuously or with a dash mounted control switch. The preferred strobe light mounting location is on the cab roof;
- (b) Signal Lights - Include head lights, stop lights and turn signals; and
- (c) Working Lights - Include forward and rearward facing working lights.

3.17 Hydraulic System - The hydraulic system **shall** be the manufacturer's standard complete with all components required for the operation of the hydraulic equipment specified.

3.18 Lubricants and Hydraulic Fluids - The vehicle **shall** be serviced with the manufacturer's standard non-proprietary lubricants and hydraulic fluids.

3.19 **Paint** - The vehicle **shall** be painted using the manufacturer's standard commercial painting system and in the manufacturer's standard commercial colours.

3.20 **Identification** - The manufacturer's name, model and vehicle serial number **shall** be permanently marked in a conspicuous and protected location.

3.21 **Vehicle Delivery Condition**

- (a) If the vehicle requires assembly at destination, the contractor **shall** be responsible for all manpower and equipment to perform assembly;
- (b) The space for assembly at destination will be provided, if required;
- (c) For shipment verification, items such as wheel wrenches, jacks, and all other tools, equipment and accessories, which are shipped loose, **shall** be listed on the shipping certificate or to an attached packing note;
- (d) Fuel tank(s) **shall** be half to three quarters full on delivery; and
- (f) Lubricant viscosity provided **shall** be in accordance with the manufacturer's specifications for the destination and the season of delivery.

4. **Integrated Logistic Support**

4.1 **Contractor Documentation and Support Items**

4.1.1 **Items Provided to Technical Authority**

- (a) **Data Summary** - A bilingual data summary **shall** be provided for each configuration with data and a vehicle picture in the **Technical Authority** provided format;
- (b) **Manuals for Approval**
 - i One set of manuals, including operator, parts and maintenance manuals, in both digital and paper format, **shall** be provided;
 - ii The operator and maintenance manuals **shall** be provided in a bilingual format as a package;
 - iii Digital copies **shall** be functional without the requirement for a password, an auto-run installation procedure or an Internet connection. Digital copies **shall** be provided on a CD or DVD. It is preferred that digital copies are provided in a searchable PDF format;
 - iv Manuals will not be returned; and
 - v Approval or comments on the manuals will be provided within 15 working days of receipt.

(c) **Warranty Letter**

- i A paper copy of the completed bilingual warranty letter in the approved format (provided by the **Technical Authority**) **shall** be provided to the **Technical Authority**; and
- ii The warranty letter **shall** include the name and contact information of the closest designated warranty provider and other designated warranty providers across Canada.

(d) **Photographs**

- i Two (2) digital pictures, one left-front three-quarter view, and one right-rear three-quarter view of each configuration **shall** be provided;
- ii It is preferred that pictures have an uncluttered background; and
- iii Pictures **shall** have a resolution of at least eight (8) Mega pixels.

(e) **Initial Parts Kit List** - The contractor **shall** provide a list of parts needed to perform preventive maintenance on one vehicle for a 1 year period as per the maintenance manual. A complete change of all filters and filter elements **shall** be included in the list. The list **shall** include the following elements:

- i Part description;
- ii Original Equipment Manufacturer Part number;
- iii Suggested quantity; and
- iv Unit cost.

(f) **Material Safety Data Sheets**

- i The contractor **shall** provide a listing of all hazardous materials used on the vehicle;
- ii If there are no hazardous materials used, this **shall** be stated on the listing; and
- iii The contractor **shall** provide material safety data sheets of all hazardous materials in the list.

(g) **Crane Certification** - The Contractor **shall** provide a copy of the Crane Certifications and any relevant test reports on structural components for each vehicle to the Technical Authority prior to shipment of the vehicle to the delivery location.

4.1.2 **Items with Each Vehicle**

(a) **Operator's Manuals**

- i An operator's manual for the safe vehicle operation including all supplied attachments **shall** be provided with each vehicle shipped;

- ii The operator's manual **shall** be provided in a bilingual format as a package;
- iii A digital copy of the operator's manual **shall** be provided, in addition to the paper copy, with each vehicle shipped; and
- iv The digital copy **shall** function without the requirement for a password, an auto-run installation procedure or an Internet connection. Digital copies **shall** be provided on a CD or DVD. It is preferred that the digital copy be provided in a searchable PDF format.

(b) **Warranty Letter**

- i A paper copy of the completed bilingual warranty letter in the approved format (provided by the **Technical Authority**) **shall** be provided with each vehicle shipped;
- ii The warranty letter **shall** include the name and contact information of the closest designated warranty provider and other designated warranty providers across Canada; and
- iii Designated warranty providers **shall** honour the warranty letter.

(c) **Keys** - Four (4) keys in accordance with paragraph 3.6 (a) **shall** be provided.

(d) **Log Book**. A crane log book **shall** be provided.

(e) **Crane Certification Document**

- i A paper copy of the crane certification **shall** be provided with each crane; and
- ii Initial testing and inspection for certification to CSA Z150 **shall** be recorded in the crane log book.

4.1.3 **Items Shipped to the Vehicle Supporting Unit**

- (a) **Operator's Manuals** - The contractor **shall** provide a bilingual operator's manual in both paper and digital format. Digital copies **shall** be provided on a CD or DVD;
- (b) **Parts Manuals** - The contractor **shall** provide an English Parts Manual in both paper and digital format. Digital copies **shall** be provided on a CD or DVD;
- (c) **Maintenance (Shop Repair) Manuals** - The contractor **shall** provide a Maintenance (Shop Repair) Manual in a bilingual format or as 2 manuals in a single binder (one English, and one French) in both paper and digital format. Digital copies **shall** be provided on a CD or DVD;
- (d) **Material Safety Data Sheets** - The contractor **shall** provide material safety data sheets of all hazardous materials in the list provided to the **technical authority**; and

- (e) **Filters** - The contractor **shall** provide a complete change of all filters and filter elements.

4.2 **Training**

4.2.1 **Training - Maintenance Personnel**

- (a) The Contractor **shall** provide a maintenance/repair training course;
- (b) The course **shall** be given at each destination for a minimum duration of two (2) days to provide training for a maximum of eight (8) maintenance personnel;
- (c) Training **shall** be available in both official languages for locations in the province of Quebec or when requested by the Crown;
- (d) An outline of the course **shall** be provided, for approval, to the **Technical Authority**, prior to the conduct of training;
- (e) The final dates **shall** be arranged with the Technical Authority;
- (f) 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 will supply this document in an electronic format, when requested; and
- (g) 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.

4.2.2 **Training - Operators**

- (a) The Contractor **shall** provide an operator training course;
- (b) The course **shall** be given at each destination for a minimum duration of two (2) days to provide training for a maximum of eight (8) DND operators;
- (c) Training **shall** be available in both official languages for destinations in the province of Quebec and when requested by the Crown;
- (d) An outline of the course **shall** be provided, for approval, to the **Technical Authority**, prior to the conduct of training;
- (e) The final dates **shall** be arranged with the Technical Authority;
- (f) 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, when requested; and

- (g) 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.