



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 0B2 / Noyau 0B2
Gatineau, Québec K1A 0S5
Bid Fax: (819) 997-9776

LETTER OF INTEREST
LETTRE D'INTÉRÊT

Comments - Commentaires

Title - Sujet SNIC Project	
Solicitation No. - N° de l'invitation W8476-175634/A	Date 2017-12-22
Client Reference No. - N° de référence du client W8476-175634	GETS Ref. No. - N° de réf. de SEAG PW-\$\$HS-634-74029
File No. - N° de dossier hs634.W8476-175634	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2018-01-23	
Time Zone Fuseau horaire Eastern Standard Time EST	
F.O.B. - F.A.B. Specified Herein - Précisé dans les présentes Plant-Usine: <input type="checkbox"/> Destination: <input type="checkbox"/> Other-Autre: <input checked="" type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Paquin, Benoit	Buyer Id - Id de l'acheteur hs634
Telephone No. - N° de téléphone (873) 469-3401 ()	FAX No. - N° de FAX () -
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: DEPARTMENT OF NATIONAL DEFENCE ADM (Mat) DGLPEM 101 COLONEL BY DR. OTTAWA Ontario K1A0K2 Canada	

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

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PART 1 – PURPOSE AND NATURE OF THE RFI

1.1 Purpose of the RFI

Public Services and Procurement Canada (PSPC) is launching this Request for Information (RFI) in order to seek information and feedback from industry with regard to Part 4 - Draft Request for Proposal (RFP) for the Snow and Ice Control Equipment.

The purpose of this Request for Information (RFI) is to achieve the following:

- a) Provide industry with an early opportunity to assess, comment and suggest changes to the RFP;
- b) Determine the capability of industry to satisfy the requirements;
- c) Request indicative costing information from industry in order to allow Canada to prepare its documents for Project Approval. Industry is asked to provide Rough Order of Magnitude (ROM) pricing for as many items as possible.
- d) Obtain industry feedback on any issues that would impact their ability to bid on the resulting solicitation and/or deliver on the department's requirements;
- e) Gather industry knowledge, expertise and recommendations with regard to best practices that would increase the success of the solicitation and/or identify any risks that would impact the solicitation;
- f) Enhance competition, access and fairness of the resulting solicitation; and
- g) Inform industry and the government to ensure that the formal RFP process moves forward efficiently and has a high probability of success.

Respondents are requested to provide answers and feedback related to Part 3 – Draft Departmental Procurement Strategy, Part 4 – Draft Request for Proposal and Part 5 – Questions to industry which contains questions for specific information being sought by the department.

1.2 Nature of the RFI

This is not a bid solicitation. This RFI will not result in the award of any contract. As a result, potential suppliers of any goods or services described in this RFI should not reserve stock or facilities, nor allocate resources, as a result of any information contained in this RFI. Nor will this RFI result in the creation of any source list. Therefore, whether or not any potential supplier responds to this RFI, this will not preclude that supplier from participating in any future procurement. Also, the procurement of any of the goods and services described in this RFI will not necessarily follow this RFI. This RFI is simply intended to solicit information and feedback from industry with respect to the matters described in this RFI.

Nothing in this RFI will be construed as a commitment from PSPC to issue a solicitation for this requirement. PSPC may use non-proprietary information provided in this review and/or in the preparation of any formal solicitation document.

PSPC will not be bound by anything stated herein and reserves the right to change at any time, any or all parts of the requirement, as it deems necessary. PSPC also reserves the right to revise its procurement approach, as it considers appropriate, either based upon information submitted in response to this RFI or for any other reason it deems appropriate.

PART 2 – RESPONSE INSTRUCTIONS AND INFORMATION

2.1 Nature and Format of Responses Requested

The department's current view of its requirement for Snow and Ice Control Equipment, the characteristics of the supply solution it is currently contemplating, and the technical requirements are all detailed in Part 3 of this RFI.

The department is seeking input and responses to specific questions (refer to Part 5 – Question to Industry) covering important elements of the requirement prior to proceeding with finalizing its procurement strategy.

Respondents are invited to provide comments regarding the content of Part 3 and related requirements included in this RFI by completing and returning the electronic format of Part 5 – Question to Industry. Respondents should explain any assumptions they make in their interpretation of the requirements.

2.2 Response Costs

PSPC will not reimburse any respondent for expenses incurred in responding to this RFI.

2.3 Treatment of Responses

2.3.1 Use of Responses

Responses will not be formally evaluated. The responses received may be used by PSPC to develop or modify procurement strategies or any draft documents contained in this RFI. PSPC will review all responses received by the RFI closing date. PSPC may, in its discretion, review responses received after the RFI closing date.

2.3.2 Review Team

A review team composed of representatives of PSPC and the Department of National Defence (DND) will review the responses. PSPC reserves the right to hire any independent consultant, or use any Government resources that it considers necessary to review any response. Not all members of the review team will necessarily review all responses.

2.3.3 Confidentiality

Respondents should indicate and mark any portions of their response that they consider proprietary or confidential. PSPC will handle these portions in a confidential manner in accordance with the Access to Information Act of Canada.

2.3.4 Follow-up Activity

PSPC may, at its discretion, contact any respondents to follow up with additional questions or for clarification of any aspect of a response. PSPC may, at its discretion agree to meet with respondents to provide respondents with the opportunity to present and/or demonstrate their capabilities in relation to this RFI.

Respondents' presentations are at no obligation to PSPC and respondents will be responsible for all costs associated with PSPC's invitation to make a presentation.

2.4 Contents of this RFI

This RFI contains a draft procurement strategy including draft technical requirements and respondents should anticipate that clauses or requirements may be added to or deleted from any resulting bid solicitation that may be published by PSPC in the future. Comments regarding any aspect of this RFI are requested. This RFI also contains specific questions addressed to the industry.

2.4.1 Historical & Volumetric Data

The data contained within this RFI is being provided to respondents purely for information purposes. Although it represents the best information currently available to PSPC, there is no guarantee that the data is complete or free from error.

2.5 Format of Responses

2.5.1 Response preparation

PSPC requests that respondents submit their responses electronically in MS Word, PDF or compatible formats. Responses can be provided by email. Medium such as CD, DVD or USB key are acceptable. Hardcopy responses will also be accepted but is not the preferred option.

2.5.2 Response content

The first page of each document of the response provided should contain:

- a) The RFI number
- b) The name of the company that the respondent's is representing;
- c) The title, the name and the contact information of the respondent's; and,
- d) The date of submission of the documents.

All pages should be identified with the company's name along with page numbers.

2.6 Enquiries

PSPC will not necessarily respond to enquiries in writing or by circulating answers to all potential suppliers as this is not a solicitation process. However, respondents with questions regarding this RFI may direct their enquiries to the Contracting Authority named below:

Name: Benoit Paquin
Title: Supply Team Leader
Division: Industrial Vehicles, Machinery Products and Logistics Division - HS

Address: Public Services and Procurement Canada
PDP III 7B1
11 Rue Laurier
Gatineau, Quebec K1A 0S5
Canada

Telephone: 873-469-3401
Email: benoit.paquin@tpsgc-pwgsc.gc.ca

2.7 Submission of Responses

2.7.1 Time and Place for Submission of Responses

Suppliers interested in providing a response should deliver it electronically or by mail to the attention of the Contracting Authority by the time and the date on page 1 of the RFI to the address indicated in Part 2 section 2.6.

2.7.2 Responsibility for Timely Delivery

Each respondent should ensure its response is delivered on time to the correct email address or location.

2.8 Security Requirements

There are no security requirements associated with responding to this RFI. Any future procurement actions undertaken in support of this requirement will not require a government security clearance.

2.9 Official Languages

Responses to this RFI are requested to be presented in either of the Official Languages of Canada.

2.10 Industry Day and Consultations

Following the RFI and the responses received, the following schedule be utilized as a baseline:

- Industry Day (If Required)
- One on One sessions (if required)

PSPC will not reimburse any respondent for expenses incurred in relation to the attendance of any of the above sessions.

PART 3 – DRAFT DEPARTMENTAL PROCUREMENT STRATEGY

3.1 Introduction

The Department of National Defense (DND) has a requirement to recapitalize the majority of the current airfield Snow and Ice Control (SNIC) capability for the Royal Canadian Air Force (RCAF).

The procurement is for

- 22 Runway snow blowers;
- 24 Multi-Tasking Equipment (MTE) with runway snow plows including
 - 33 towed cradle broom sweepers;
- 12 Aircraft de-icers/anti-icers.

The delivery locations of the SNIC equipment will be at the following six (6) major RCAF wings:

- 3 Wing Bagotville
- 4 Wing Cold Lake
- 8 Wing Trenton
- 14 Wing Greenwood
- 17 Wing Winnipeg
- 19 Wing Comox

Bidders will have the ability to submit a bid for one, two or all three equipment. Bidders must however submit a bid for all vehicle and all aspect of the Purchase Description of the equipment for which a bid is submitted. The delivery of each equipment is divided between locations stated above.

The requirement is subject to the provisions of the World Trade Organization Agreement on Government Procurement (WTO-AGP), the North American Free Trade Agreement (NAFTA), the Canada-European Union Comprehensive Economic and Trade Agreement (CETA), and the Canadian Free Trade Agreement (CFTA).

3.2 Proposed Procurement Strategy

The proposed procurement strategy would be to award through a competitive process up to three (3) separate contracts.

- One (1) contract for the Runway Snow Blowers and;
- One (1) contract for the Multi-Tasking Equipment (MTE) with Runway Snow Plow and Towed Cradle Broom Sweeper,
- One (1) contract for the Aircraft De-Icers/Anti-Icers;

3.3 Draft Request for Proposal

The contractual and technical documents that would form part of a future solicitation are included in Part 4 – Draft RFP. Respondents are asked to read each document carefully in order to identify potential issues to be addressed, either by answering the related questions or by submitting additional comments.

3.3.1 Draft Request for Proposal – Terms and Conditions

The Terms and Conditions of the draft Request for Proposal (RFP) document can be found in the Part 4. The instructions to bidders, the technical and financial evaluation procedures as well as the Contract terms and conditions are outlined in this document.

3.3.2 Technical Documents

The purchase description and its appendices outline the technical requirements for each vehicles. The purchase description outlines in detail each individual technical requirement of all equipment sought by Canada. The related annexes are:

- Annex B – Purchase Description for Runway Snow Blower
- Annex C – Purchase Description for Multi-Tasking Equipment with Runway Snow Plow and

Towed Cradle Broom Sweeper

- Annex D – Purchase Description for Aircraft De-Icers/Anti-Icers 8,000L

3.3.3 Request for Proposal – Other Annexes

Annex A – Pricing: This annex must be completed by a bidder and will serve as both the financial bid and the financial evaluation for the solicitation.

Annex E – Electronic Payment Instruments: This annex will be completed by a bidder and will serve to indicate which Electronic Payment Instrument is accepted by the bidder.

Annex F – Federal Contractors Program for Employment Equity - Certification: This annex will be completed by a bidder and will serve to indicate the compliance of the bidder to the program.

Specific instructions on bid submission can be found in the Terms and Conditions of the RFP.

3.3.4 Question to Industry

Respondents responding to this Request for Information (RFI) are asked to answer questions listed in Part 5 – Question to Industry as well as to provide any additional comments regarding any part of the procurement strategy outlined in the RFI and the annexed documents. An MS Office version of the Part 5 – Question to Industry is available on Buy & Sell.

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Client Ref. No. - N° de réf. du client
W8476-175634

Amd. No. - N° de la modif.
File No. - N° du dossier
HS634.W8476-175634

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HS634
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HS634
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Attachments

Annex A - Pricing

Annex B - Purchase Description for Runway Snow Blower

Appendix B1 - Technical Information Questionnaire

Annex C - Purchase Description for Multi-Tasking Equipment with Runway Snow Plow and Towed Cradle
Broom Sweeper

Appendix C1 - Technical Information Questionnaire

Annex D - Purchase Description for Aircraft De-Icer/Anti-Icer 8,000L

Appendix D1 - Technical Information Questionnaire

Annex E - Electronic Payment Instruments

Annex F - Federal Contractors Program for Employment Equity - Certification

PART 1 - GENERAL INFORMATION

1.1 Introduction

The bid solicitation and resulting contract document is divided into six (6) parts plus annexes as follows:

- Part 1 General Information: provides a general description of the requirement;
- Part 2 Bidder Instructions: provides the instructions, clauses and conditions applicable to the bid solicitation;
- Part 3 Bid Preparation Instructions: provides bidders with instructions on how to prepare their bid;
- Part 4 Evaluation Procedures and Basis of Selection: indicates how the evaluation will be conducted, the evaluation criteria that must be addressed in the bid, and the basis of selection;
- Part 5 Certifications: includes the certifications to be provided;
- Part 6 Resulting Contract Clauses: includes the clauses and conditions that will apply to any resulting contract.

The attachments include the Annex A - Pricing, Annex B - Purchase Description for Runway Snow Blower, Annex C - Purchase Description for Multi-Tasking Equipment with Runway Snow Plow and Towed Cradle Broom Sweeper, Annex D - Purchase Description for Aircraft De-Icer/Anti-Icer 8,000L, Annex E - Electronic Payment Instruments, Annex F - Federal Contractors Program for Employment Equity – Certification and their appendices.

1.2 Summary

The Department of National Defence has a requirement to purchase the following equipment:

- a. Twenty two (22) Runway Snow Blowers and ancillary items, including Maintenance and Operator training, in accordance with the Purchase Description for Runway Snow Blower, dated 2017-10-13, and as described at Annex A - Pricing.

The requirement includes an option to purchase up to two (2) Runway Snow Blowers and ancillary items to be exercised within twenty-four (24) months from the effective date of the contract.

- b. Multi-Tasking Equipment with Twenty four (24) Runway Snow Plows and ancillary items, and thirty three (33) Towed Cradle Broom Sweepers and ancillary items, including Maintenance and Operator training, in accordance with the Purchase Description for Multi-Tasking Equipment with Runway Snow Plow and Towed Cradle Broom Sweeper, dated 2017-10-13, and as described at Annex A - Pricing.

The requirement includes an option to purchase Multi-Tasking Equipment with up to five (5) Runway Snow Plows and ancillary items, and up to five (5) Towed Cradle Broom Sweepers and ancillary items, to be exercised within twenty-four (24) months from the effective date of the contract.

- c. Twelve (12) Aircraft De-Icers/Anti-Icers 8,000L and ancillary items, including Maintenance and Operator training, in accordance with the Purchase Description for Aircraft De-Icer/Anti-Icer 8,000L, dated 2017-11-07, and as described at Annex A - Pricing.

The requirement includes an option to purchase up to four (4) Aircraft De-Icers/Anti-Icers 8,000L

and ancillary items to be exercised within twenty-four (24) months from the effective date of the contract.

1.3 Trade Agreements

The requirement is subject to the provisions of the World Trade Organization Agreement on Government Procurement (WTO-AGP), the North American Free Trade Agreement (NAFTA), the Canada-European Union Comprehensive Economic and Trade Agreement (CETA), and the Canadian Free Trade Agreement (CFTA).

1.4 Debriefings

Bidders may request a debriefing on the results of the bid solicitation process. Bidders should make the request to the Contracting Authority within fifteen (15) working days from receipt of the results of the bid solicitation process. The debriefing may be provided in writing, by telephone or in person.

1.5 Phased Bid Compliance Process

The Phased Bid Compliance Process (PBCP) applies to this requirement.

PART 2 - BIDDER INSTRUCTIONS

2.1 Standard Instructions, Clauses and Conditions

All instructions, clauses and conditions identified in the bid solicitation by number, date and title are set out in the Standard Acquisition Clauses and Conditions Manual issued by Public Works and Government Services Canada (PWGSC).

Bidders who submit a bid agree to be bound by the instructions, clauses and conditions of the bid solicitation and accept the terms and conditions of the resulting contract.

The 2003 (2017-04-27) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

Subsection 05.4 of 2003, Standard Instructions - Goods or Services - Competitive Requirements, is amended as follows:

Delete: 60 days

Insert: 90 days

2.2 Submission of Bids

Bids must be submitted only to Public Works and Government Services Canada (PWGSC) Bid Receiving Unit by the date, time and place indicated on page 1 of the bid solicitation.

2.3 Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than seven (7) calendar days before the bid closing date. Enquiries received after that time may not be answered.

Bidders should reference as accurately as possible the numbered item of the bid solicitation to which the enquiry relates. Care should be taken by bidders to explain each question in sufficient detail in order to enable Canada to provide an accurate answer. Technical enquiries that are of a "proprietary" nature must be clearly marked "proprietary" at each relevant item. Items identified as proprietary will be treated as such except where Canada determines that the enquiry is not of a proprietary nature. Canada may edit the questions or may request that the Bidder do so, so that the proprietary nature of the questions is eliminated, and the enquiry can be answered to all bidders. Enquiries not submitted in a form that can be distributed to all bidders may not be answered by Canada.

2.4 Applicable Laws - Bid

Any resulting contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Ontario.

Bidders may, at their discretion, substitute the applicable laws of a Canadian province or territory of their choice without affecting the validity of their bid, by deleting the name of the Canadian province or territory specified and inserting the name of the Canadian province or territory of their choice. If no change is made, it acknowledges that the applicable laws specified are acceptable to the Bidders.

2.5 Improvement of Requirement During Solicitation Period

Should bidders consider that the specifications, Statement of Work or Purchase Description contained in the bid solicitation could be improved technically or technologically, bidders are invited to make suggestions, in writing, to the Contracting Authority named in the bid solicitation. Bidders must clearly outline the suggested improvement as well as the reason for the suggestion. Suggestions that do not restrict the level of competition nor favour a particular bidder will be given consideration provided they are submitted to the Contracting Authority at least seven (7) calendar days before the bid closing date. Canada will have the right to accept or reject any or all suggestions.

PART 3 - BID PREPARATION INSTRUCTIONS

3.1 Bid Preparation Instructions

Canada requests that bidders provide their bid in separately bound sections as follows:

Section I: Technical Bid (2 hard copies)

Section II: Financial Bid (1 hard copy)

Section III: Certifications (1 hard copy)

Section IV: Additional Information (1 hard copy)

Prices must appear in the financial bid only. No prices must be indicated in any other section of the bid.

Canada requests that Bidders follow the format instructions described below in the preparation of their bid:

- (a) use 8.5 x 11 inch (216 mm x 279 mm) paper;
- (b) use a numbering system that corresponds to the bid solicitation.

In April 2006, Canada issued a policy directing federal departments and agencies to take the necessary steps to incorporate environmental considerations into the procurement process [Policy on Green Procurement](http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html) (<http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html>). To assist Canada in reaching its objectives, bidders should:

- 1) use 8.5 x 11 inch (216 mm x 279 mm) paper containing fibre certified as originating from a sustainably-managed forest and containing minimum 30% recycled content; and
- 2) use an environmentally-preferable format including black and white printing instead of colour printing, printing double sided/duplex, using staples or clips instead of cerlox, duotangs or binders.

Section I: Technical Bid

In their technical bid, Bidders should explain and demonstrate how they propose to meet the requirements and how they will carry out the Work.

Bidders do not have to submit a bid for all three (3) types of equipment (Annex B, Annex C and Annex D). Each type of equipment will be evaluated individually.

Bidders should submit, with their bid, the completed Technical Information Questionnaire for each type of equipment for which they are submitting a bid.

3.1.1 Substitutes and Alternatives

Bidders may propose substitutes and alternatives where **equivalent** is indicated in the technical requirement description (Purchase Description/Statement of Requirement/Statement of Work).

1. Substitutes and alternatives that are equivalent in form, fit, function, quality and performance will be considered for acceptance by the Technical Authority where the Bidder:
 - (a) Clearly identifies a substitute and/or an alternative;
 - (b) Designates the brand name, model and/or part number of the substitute and/or of the product, where applicable;

-
- (c) States that the substitute product is fully interchangeable with the item specified in the technical requirement description;
 - (d) Provides complete specifications and brochures, where applicable;
 - (e) Provides compliance statements that include technical details showing the substitute and/or the alternative meet all technical requirements specified in the technical requirement description; and
 - (f) Clearly identifies those areas in the technical requirement description and in the brochures that support the substitute and/or the alternative compliance with the technical requirements.
2. Substitutes and alternatives offered as equivalent in form, fit, function quality and performance will not be considered for acceptance by the Technical Authority if:
 - (a) The bid fails to provide all of the information requested to allow the Technical Authority to fully evaluate the equivalency; or
 - (b) The substitute and/or the alternative fail to meet or fail to exceed the technical requirements specified in the technical requirement description.
 3. Bidders are encouraged to offer or suggest green products whenever possible.

Section II: Financial Bid

Bidders must submit their financial bid in accordance with the Basis of Payment specified in Part 6 and Annex A - Pricing.

Bidders should complete Annex A and submit it with their bid.

3.1.2 Electronic Payment of Invoices – Bid

If you are willing to accept payment of invoices by Electronic Payment Instruments, complete Annex E - Electronic Payment Instruments, to identify which ones are accepted.

If Annex E - Electronic Payment Instruments is not completed, it will be considered as if Electronic Payment Instruments are not being accepted for payment of invoices.

Acceptance of Electronic Payment Instruments will not be considered as an evaluation criterion.

3.1.3 SACC Manual Clauses

3.1.3.1 Exchange Rate Fluctuation Risk Mitigation

1. The Bidder may request Canada to assume the risks and benefits of exchange rate fluctuations. If the Bidder claims for an exchange rate adjustment, this request must be clearly indicated in the bid at time of bidding. The Bidder must submit form [PWGSC-TPSGC 450](#), Claim for Exchange Rate Adjustments with its bid, indicating the Foreign Currency Component (FCC) in Canadian dollars for each line item for which an exchange rate adjustment is required.
2. The FCC is defined as the portion of the price or rate that will be directly affected by exchange rate fluctuations. The FCC should include all related taxes, duties and other costs paid by the Bidder and which are to be included in the adjustment amount.
3. The total price paid by Canada on each invoice will be adjusted at the time of payment, based on the FCC and the exchange rate fluctuation provision in the contract. The exchange rate adjustment will only be applied where the exchange rate fluctuation is greater than 2% (increase or decrease).

4. At time of bidding, the Bidder must complete columns (1) to (4) on form PWGSC-TPSGC 450 , for each line item where they want to invoke the exchange rate fluctuation provision. Where bids are evaluated in Canadian dollars, the dollar values provided in column (3) should also be in Canadian dollars, so that the adjustment amount is in the same currency as the payment.
5. Alternate rates or calculations proposed by the Bidder will not be accepted for the purposes of this exchange rate fluctuation provision.

Section III: Certifications

Bidders must submit the certifications required under Part 5.

Section IV: Additional Information

Canada requests that bidders submit the following information:

3.1.4 Best Delivery Date – Bid

3.1.4.1 Firm Quantity

While delivery of the equipment/vehicle is requested by to be inserted by PWGSC, the best delivery that could be offered is as follows:

Twenty two (22) Runway Snow Blowers and ancillary items will be delivered within _____ weeks/calendar days from the effective date of the contract.

Twenty four (24) Runway Snow Plows and ancillary items, and thirty three (33) Towed Cradle Broom Sweepers and ancillary items, will be delivered within _____ weeks/calendar days from the effective date of the contract.

Twelve (12) Aircraft De-Icers/Anti-Icers 8,000L and ancillary items will be delivered within _____ weeks/calendar days from the effective date of the contract.

3.1.4.2 Optional Quantity

The best delivery that could be offered is as follows:

If an option is exercised, up to two (2) Runway Snow Blowers and ancillary items will be delivered within _____ weeks/calendar days.

If an option is exercised, up to five (5) Runway Snow Plows and ancillary items, and Towed Cradle Broom Sweepers and ancillary items, will be delivered within _____ weeks/calendar days.

If an option is exercised, up to four (4) Aircraft De-Icers/Anti-Icers 8,000L and ancillary items will be delivered within _____ weeks/calendar days.

3.1.5 Supplier Contacts

Canada requests that Bidders provide the Contractor's Representative contact information in Part 6.

3.1.6 After Sales Service

Canada requests that the Bidder provide in Part 6 the names, addresses and telephone numbers of their dealers and/or agents authorized to provide after sales service, maintenance and warranty repairs, and a full range of repair parts for the vehicle/equipment offered. The Bidder should show the distance between the delivery location and the authorized dealer and/or agent and the delivery location, which should not be more than 100 kilometres.

3.1.7 Manufacturer's Standard Warranty Period

Canada requests that the Bidder provide details of the manufacturer's standard warranty period for the

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vehicle/equipment and its component that exceeds the minimum warranty period of twelve (12) months or 2000 hours of usage, whichever comes first. Any additional manufacturer's standard warranty such as those derived from the Original Equipment Manufacturer (OEM) for component/sub-assemblies will form part of the proposed contract.

3.1.8 Extended Warranty Period

Canada requests that the Bidder indicate if an extended warranty period is being offered that exceeds the minimum warranty period of twelve (12) months or 2000 hours of usage, whichever comes first (as indicated in the requisition).

If yes, Canada requests that the Bidder provide details and pricing information of any extended warranty period available for the vehicle/equipment and any ancillary items.

Any extended warranty period offered will not be included in the financial evaluation.

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

4.1 Evaluation Procedures

- (a) Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria.
- (b) An evaluation team composed of representatives of Canada will evaluate the bids.
- (c) Canada will use the Phased Bid Compliance Process described below.

4.1.1 Phased Bid Compliance Process (PBCP)

4.1.1.1 General

- (a) Canada is conducting the PBCP described below for this requirement.
- (b) Notwithstanding any review by Canada at Phase I or II of the PBCP, Bidders are and will remain solely responsible for the accuracy, consistency and completeness of their Bids and Canada does not undertake, by reason of this review, any obligations or responsibility for identifying any or all errors or omissions in Bids or in responses by a Bidder to any communication from Canada.

THE BIDDER ACKNOWLEDGES THAT THE REVIEWS IN PHASE I AND II OF THIS PBCP ARE PRELIMINARY AND DO NOT PRECLUDE A FINDING IN PHASE III THAT THE BID IS NON-RESPONSIVE, EVEN FOR MANDATORY REQUIREMENTS WHICH WERE SUBJECT TO REVIEW IN PHASE I OR II AND NOTWITHSTANDING THAT THE BID HAD BEEN FOUND RESPONSIVE IN SUCH EARLIER PHASE. CANADA MAY DEEM A BID TO BE NON-RESPONSIVE TO A MANDATORY REQUIREMENT AT ANY PHASE. THE BIDDER ALSO ACKNOWLEDGES THAT ITS RESPONSE TO A NOTICE OR A COMPLIANCE ASSESSMENT REPORT (CAR) (EACH DEFINED BELOW) IN PHASE I OR II MAY NOT BE SUCCESSFUL IN RENDERING ITS BID RESPONSIVE TO THE MANDATORY REQUIREMENTS THAT ARE THE SUBJECT OF THE NOTICE OR CAR, AND MAY RENDER ITS BID NON-RESPONSIVE TO OTHER MANDATORY REQUIREMENTS.

- (c) Canada may, in its discretion, request and accept at any time from a Bidder and consider as part of the Bid, any information to correct errors or deficiencies in the Bid that are clerical or administrative, such as, without limitation, failure to sign the Bid or any part or to checkmark a box in a form, or other failure of format or form or failure to acknowledge; failure to provide a procurement business number or contact information such as names, addresses and telephone numbers; inadvertent errors in numbers or calculations that do not change the amount the Bidder has specified as the price or of any component thereof that is subject to evaluation. This shall not limit Canada's right to request or accept any information after the bid solicitation closing in circumstances where the bid solicitation expressly provides for this right. The Bidder will have the time period specified in writing by Canada to provide the necessary documentation. Failure to meet this deadline will result in the Bid being declared non-responsive.
- (d) The PBCP does not limit Canada's rights under Standard Acquisition Clauses and Conditions (SACC) 2003 (2017-04-27) Standard Instructions – Goods or Services – Competitive Requirements nor Canada's right to request or accept any information during the solicitation period or after bid solicitation closing in circumstances where the bid solicitation expressly provides for this right, or in the circumstances described in subsection (c).
- (e) Canada will send any Notice or CAR by any method Canada chooses, in its absolute discretion. The Bidder

must submit its response by the method stipulated in the Notice or CAR. Responses are deemed to be received by Canada at the date and time they are delivered to Canada by the method and at the address specified in the Notice or CAR. An email response permitted by the Notice or CAR is deemed received by Canada on the date and time it is received in Canada's email inbox at Canada's email address specified in the Notice or CAR. A Notice or CAR sent by Canada to the Bidder at any address provided by the Bidder in or pursuant to the Bid is deemed received by the Bidder on the date it is sent by Canada. Canada is not responsible for late receipt by Canada of a response, however caused.

4.1.1.2 Phase I: Financial Bid

- (a) After the closing date and time of this bid solicitation, Canada will examine the Bid to determine whether it includes a Financial Bid and whether any Financial Bid includes all information required by the solicitation. Canada's review in Phase I will be limited to identifying whether any information that is required under the bid solicitation to be included in the Financial Bid is missing from the Financial Bid. This review will not assess whether the Financial Bid meets any standard or is responsive to all solicitation requirements.
- (b) Canada's review in Phase I will be performed by officials of the Department of Public Works and Government Services.
- (c) If Canada determines, in its absolute discretion that there is no Financial Bid or that the Financial Bid is missing all of the information required by the bid solicitation to be included in the Financial Bid, then the Bid will be considered non-responsive and will be given no further consideration.
- (d) For Bids other than those described in c), Canada will send a written notice to the Bidder ("Notice") identifying where the Financial Bid is missing information. A Bidder, whose Financial Bid has been found responsive to the requirements that are reviewed at Phase I, will not receive a Notice. Such Bidders shall not be entitled to submit any additional information in respect of their Financial Bid.
- (e) The Bidders who have been sent a Notice shall have the time period specified in the Notice (the "Remedy Period") to remedy the matters identified in the Notice by providing to Canada, in writing, additional information or clarification in response to the Notice. Responses received after the end of the Remedy Period will not be considered by Canada, except in circumstances and on terms expressly provided for in the Notice.
- (f) In its response to the Notice, the Bidder will be entitled to remedy only that part of its Financial Bid which is identified in the Notice. For instance, where the Notice states that a required line item has been left blank, only the missing information may be added to the Financial Bid, except that, in those instances where the addition of such information will necessarily result in a change to other calculations previously submitted in its Financial Bid, (for example, the calculation to determine a total price), such necessary adjustments shall be identified by the Bidder and only these adjustments shall be made. All submitted information must comply with the requirements of this solicitation.
- (g) Any other changes to the Financial Bid submitted by the Bidder will be considered to be new information and will be disregarded. There will be no change permitted to any other Section of the Bidder's Bid. Information submitted in accordance with the requirements of this solicitation in response to the Notice will replace, in full, **only** that part of the original Financial Bid as is permitted above, and will be used for the remainder of the bid evaluation process.

- (h) Canada will determine whether the Financial Bid is responsive to the requirements reviewed at Phase I, considering such additional information or clarification as may have been provided by the Bidder in accordance with this Section. If the Financial Bid is not found responsive for the requirements reviewed at Phase I to the satisfaction of Canada, then the Bid shall be considered non-responsive and will receive no further consideration.
- (i) Only Bids found responsive to the requirements reviewed in Phase I to the satisfaction of Canada, will receive a Phase II review.

4.1.1.3 Phase II: Technical Bid

- (a) Canada's review at Phase II will be limited to a review of the Technical Bid to identify any instances where the Bidder has failed to meet any Eligible Mandatory Criterion. This review will not assess whether the Technical Bid meets any standard or is responsive to all solicitation requirements. Eligible Mandatory Criteria are all mandatory technical criteria that are identified in this solicitation as being subject to the PBCP. Mandatory technical criteria that are not identified in the solicitation as being subject to the PBCP, will not be evaluated until Phase III.
- (b) Canada will send a written notice to the Bidder (Compliance Assessment Report or "CAR") identifying any Eligible Mandatory Criteria that the Bid has failed to meet. A Bidder whose Bid has been found responsive to the requirements that are reviewed at Phase II will receive a CAR that states that its Bid has been found responsive to the requirements reviewed at Phase II. Such Bidder shall not be entitled to submit any response to the CAR.
- (c) A Bidder shall have the period specified in the CAR (the "Remedy Period") to remedy the failure to meet any Eligible Mandatory Criterion identified in the CAR by providing to Canada in writing additional or different information or clarification in response to the CAR. Responses received after the end of the Remedy Period will not be considered by Canada, except in circumstances and on terms expressly provided for in the CAR.
- (d) The Bidder's response must address only the Eligible Mandatory Criteria listed in the CAR as not having been achieved, and must include only such information as is necessary to achieve such compliance. Any additional information provided by the Bidder which is not necessary to achieve such compliance will not be considered by Canada, except that, in those instances where such a response to the Eligible Mandatory Criteria specified in the CAR will necessarily result in a consequential change to other parts of the Bid, the Bidder shall identify such additional changes, provided that its response must not include any change to the Financial Bid
- (e) The Bidder's response to the CAR should identify in each case the Eligible Mandatory Criterion in the CAR to which it is responding, including identifying in the corresponding section of the original Bid, the wording of the proposed change to that section, and the wording and location in the Bid of any other consequential changes that necessarily result from such change. In respect of any such consequential change, the Bidder must include a rationale explaining why such consequential change is a necessary result of the change proposed to meet the Eligible Mandatory Criterion. It is not up to Canada to revise the Bidder's Bid, and failure of the Bidder to do so in accordance with this subparagraph is at the Bidder's own risk. All submitted information must comply with the requirements of this solicitation.

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- (f) Any changes to the Bid submitted by the Bidder other than as permitted in this solicitation, will be considered to be new information and will be disregarded. Information submitted in accordance with the requirements of this solicitation in response to the CAR will replace, in full, **only** that part of the original Bid as is permitted in this Section.
- (g) Additional or different information submitted during Phase II permitted by this section will be considered as included in the Bid, but will be considered by Canada in the evaluation of the Bid at Phase II only for the purpose of determining whether the Bid meets the Eligible Mandatory Criteria. It will not be used at any Phase of the evaluation to increase or decrease any score that the original Bid would achieve without the benefit of such additional or different information. For instance, an Eligible Mandatory Criterion that requires a mandatory minimum number of points to achieve compliance will be assessed at Phase II to determine whether such mandatory minimum score would be achieved with such additional or different information submitted by the Bidder in response to the CAR. If so, the Bid will be considered responsive in respect of such Eligible Mandatory Criterion, and the additional or different information submitted by the Bidder shall bind the Bidder as part of its Bid, but the Bidder's original score, which was less than the mandatory minimum for such Eligible Mandatory Criterion, will not change, and it will be that original score that is used to calculate any score for the Bid.
- (h) Canada will determine whether the Bid is responsive for the requirements reviewed at Phase II, considering such additional or different information or clarification as may have been provided by the Bidder in accordance with this Section. If the Bid is not found responsive for the requirements reviewed at Phase II to the satisfaction of Canada, then the Bid shall be considered non-responsive and will receive no further consideration.
- (i) Only Bids found responsive to the requirements reviewed in Phase II to the satisfaction of Canada, will receive a Phase III evaluation.

4.1.1.4 Phase III: Final Evaluation of the Bid

- (a) In Phase III, Canada will complete the evaluation of all Bids found responsive to the requirements reviewed at Phase II. Bids will be assessed in accordance with the entire requirement of the bid solicitation including the technical and financial evaluation criteria.
- (b) A Bid is non-responsive and will receive no further consideration if it does not meet all mandatory evaluation criteria of the solicitation.

4.1.2 Technical Evaluation

4.1.2.1 Mandatory Technical Criteria

- (a) Bidders must demonstrate their compliance with all technical evaluation criteria detailed in the Technical Information Questionnaire, by providing substantial information describing completely and in detail how each requirement is met or addressed. Simply repeating the statement contained in the bid solicitation is not sufficient.
- (b) Bidders proposing substitutes and/or alternatives must submit with their bid, all the information detailed in Part 3, Section 1 - Substitutes and Alternatives to be considered for evaluation.
- (c) The Phased Bid Compliance Process will apply to all mandatory technical criteria.

4.1.3 Financial Evaluation

Bidders must provide with their bid all financial information requested in the bid solicitation, at Annex A –

Pricing and in accordance with the Basis of Payment specified in Part 6.

4.1.3.1 Mandatory Financial Criteria for Firm Quantity

The prices of the bid must be in Canadian dollars, DDP Delivered Duty Paid at destination, Incoterms 2000, Canadian Custom Duties and Excise Taxes included where applicable, and Applicable Taxes are extra.

4.1.3.2 Mandatory Financial Criteria for Optional Quantity

The prices of the bid must be in Canadian dollars, DDP Delivered Duty Paid at destination (shipping cost extra), Incoterms 2000, Canadian Custom Duties and Excise Taxes included where applicable, and Applicable Taxes are extra.

The shipping cost will not be included in the financial evaluation.

4.1.4 Evaluated Aggregate Price

Bids will be evaluated on an aggregate price basis per type of equipment for the firm quantity, the optional quantity and the training options as follows:

- a) the firm lot prices per type of equipment for the firm quantity will be multiplied by their identified quantities to obtain the evaluated price per type of equipment of the firm quantity;
- b) Since the optional quantities are to be exercised within twenty-four (24) months, calculation will be as follows:
 - i) The sum of the firm lot prices per type of equipment for the optional quantity, for each period of twelve (12) months, will be divided by two (2) to obtain the average price per type of equipment;
 - ii) The average price per type of equipment will be multiplied by the identified estimated quantity to obtain the evaluated price per type of equipment of the optional quantity;
- c) the firm unit prices per type of equipment for the training option will be multiplied by the identified estimated quantity to obtain the evaluated price per type of equipment of the training option;
- d) the sum of all evaluated prices per type of equipment will determine the evaluated aggregate price per type of equipment.

4.2 Basis of Selection

A bid must comply with the requirements of the bid solicitation and meet all mandatory technical and financial evaluation criteria to be declared responsive. The responsive bid with the lowest evaluated aggregate price per type of equipment will be recommended for award of a contract. More than one (1) contract may be awarded.

PART 5 – CERTIFICATIONS AND ADDITIONAL INFORMATION

Bidders must provide the required certifications and additional information to be awarded a contract.

The certifications provided by Bidders to Canada are subject to verification by Canada at all times. Canada will declare a bid non-responsive, or will declare a contractor in default if any certification made by the Bidder is found to be untrue whether made knowingly or unknowingly, during the bid evaluation period or during the contract period.

The Contracting Authority will have the right to ask for additional information to verify the Bidder's certifications. Failure to comply and to cooperate with any request or requirement imposed by the Contracting Authority will render the bid non-responsive or constitute a default under the Contract.

5.1 Certifications Required with the Bid

Bidders must submit the following duly completed certifications as part of their bid.

5.1.1 Integrity Provisions - Declaration of Convicted Offences

In accordance with the Integrity Provisions of the Standard Instructions, all bidders must provide with their bid, **if applicable**, the declaration form available on the [Forms for the Integrity Regime](http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html) website (<http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html>), to be given further consideration in the procurement process.

5.2 Certifications Precedent to Contract Award and Additional Information

The certifications and additional information listed below should be submitted with the bid, but may be submitted afterwards. If any of these required certifications or additional information is not completed and submitted as requested, the Contracting Authority will inform the Bidder of a time frame within which to provide the information. Failure to provide the certifications or the additional information listed below within the time frame provided will render the bid non-responsive.

5.2.1 Integrity Provisions – Required Documentation

In accordance with the section titled Information to be provided when bidding, contracting or entering into a real procurement agreement of the [Ineligibility and Suspension Policy](http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html) (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>), the Bidder must provide the required documentation, as applicable, to be given further consideration in the procurement process.

5.2.2 Federal Contractors Program for Employment Equity - Bid Certification

By submitting a bid, the Bidder certifies that the Bidder, and any of the Bidder's members if the Bidder is a Joint Venture, is not named on the Federal Contractors Program (FCP) for employment equity "FCP Limited Eligibility to Bid" list available at the bottom of the page of the [Employment and Social Development Canada \(ESDC\) - Labour's](https://www.canada.ca/en/employment-social-development/programs/employment-equity/federal-contractor-program.html#s4) website (<https://www.canada.ca/en/employment-social-development/programs/employment-equity/federal-contractor-program.html#s4>).

Canada will have the right to declare a bid non-responsive if the Bidder, or any member of the Bidder if the Bidder is a Joint Venture, appears on the "FCP Limited Eligibility to Bid" list at the time of contract award.

Canada will also have the right to terminate the Contract for default if a Contractor, or any member of the Contractor if the Contractor is a Joint Venture, appears on the "FCP Limited Eligibility to Bid" list during the period of the Contract.

The Bidder must provide the Contracting Authority with a completed annex Federal Contractors Program for Employment Equity - Certification, before contract award. If the Bidder is a Joint Venture, the Bidder must provide the Contracting Authority with a completed annex Federal Contractors Program for

Employment Equity - Certification, for each member of the Joint Venture.

5.2.3 Additional Certifications Precedent to Contract Award

5.2.3.1 Product Conformance

The Bidder certifies that all vehicles/equipment proposed conform, and will continue to conform throughout the duration of the contract, to all technical specifications of the purchase description(s).

This certification does not relieve the bid from meeting all mandatory technical criteria detailed in Part 4.

 Bidder's authorized representative signature

 Date

5.2.3.2 General Environmental Criteria Certification

The Bidder must select and complete one of the following two certification statements.

- A) The Bidder certifies that the Bidder is registered or meets ISO 14001.

 Bidder's authorized representative signature

 Date

Or

- B) The Bidder certifies that the Bidder meets and will continue to meet throughout the duration of the contract, a minimum of four (4) out of six (6) criteria identified in the table below.

The Bidder must indicate which four (4) criteria, as a minimum, are met.

Green Practices within the Bidders' organization	Insert a checkmark for each criterion that is met
Promotes a paperless environment through directives, procedures and/or programs	
All documents are printed double sided and in black and white for day to day business activity unless otherwise specified by your client	
Paper used for day to day business activity has a minimum of 30% recycled content and has a sustainable forestry management certification	
Utilizes environmentally preferable inks and purchase remanufactured ink cartridges or ink cartridges that can be returned to the manufacturer for reuse and recycling for day to day business activity.	

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Recycling bins for paper, newsprint, plastic and aluminum containers available and emptied regularly in accordance with local recycling program.	
A minimum of 50% of office equipment has an energy efficient certification.	

Bidder's authorized representative signature

Date

PART 6 - RESULTING CONTRACT CLAUSES

The following clauses and conditions apply to and form part of any contract resulting from the bid solicitation.

6.1 Security Requirement

There is no security requirement associated with this bid solicitation.

6.2 Requirement - Contract

The Contractor must deliver:

- a. Twenty two (22) Runway Snow Blowers and ancillary items, including Maintenance and Operator training, in accordance with the Purchase Description for Runway Snow Blower, dated 2017-10-13, and at Annex A - Pricing.

An option is included to purchase up to two (2) Runway Snow Blowers and ancillary items to be exercised within twenty-four (24) months from the effective date of the contract.

- b. Multi-Tasking Equipment with Twenty four (24) Runway Snow Plows and ancillary items, and thirty three (33) Towed Cradle Broom Sweepers and ancillary items, including Maintenance and Operator training, in accordance with the Purchase Description for Multi-Tasking Equipment with Runway Snow Plow and Towed Cradle Broom Sweeper, dated 2017-10-13, and at Annex A - Pricing.

An option is included to purchase Multi-Tasking Equipment with up to five (5) Runway Snow Plows and ancillary items, and up to five (5) Towed Cradle Broom Sweepers and ancillary items to be exercised within twenty-four (24) months from the effective date of the contract.

- c. Twelve (12) Aircraft De-Icers/Anti-Icers 8,000L and ancillary items, including Maintenance and Operator training, in accordance with the Purchase Description for Aircraft De-Icer/Anti-Icer 8,000L, dated 2017-11-07, and at Annex A - Pricing.

An option is included to purchase up to four (4) Aircraft De-Icers/Anti-Icers 8,000L and ancillary items to be exercised within twenty-four (24) months from the effective date of the contract.

6.2.1 Technical Changes, Substitutes and Alternatives

Any technical changes, substitutes and alternatives proposed by the Contractor must be evaluated for acceptance by the Technical Authority. Any substitutes and alternatives must be equivalent in form, fit, function, quality and performance to what is being replaced and must be at no additional cost to Canada. Substitutes and alternatives that are offered as equivalent will only be acceptable once they are approved by the Technical Authority as an equivalent. A contract amendment or a completed Design Change/Deviation form will be issued.

Should the Technical Authority not accept the substitute or the alternative and the Contractor is unable to meet the technical requirement, Canada may terminate the contract for default in accordance with the general conditions stated in the contract.

6.2.2 Optional Goods and/or Services

The Contractor grants to Canada the irrevocable option to acquire the goods, services or both described herein under the same conditions and at the prices and or rates stated in the Contract. The option may only be exercised by the Contracting Authority and will be evidenced, for administrative purposes only, through a contract amendment.

The option may be exercised at the discretion of Canada in whole or in part or in more than one occasion, up to the maximum quantity identified herein.

The Contracting Authority may exercise the option within twenty-four (24) months after contract award by sending a written notice to the Contractor.

The Contractor must advise the Technical Authority and Contracting Authority of any design updates that could affect the procurement of additional vehicles/equipment.

6.3 Standard Clauses and Conditions

All clauses and conditions identified in the Contract by number, date and title are set out in the Standard Acquisition Clauses and Conditions Manual (<https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual>) issued by Public Works and Government Services Canada.

6.3.1 General Conditions

2010A (2016-04-04), General Conditions - Medium Complexity - Goods, apply to and form part of the Contract.

Section 09 entitled Warranty of General Conditions 2010A is amended as follows:

At subsection 1, delete the following: "The warranty period will be twelve (12) months" and replace with the following: "The warranty period will be twelve (12) months, or 2,000 hours of usage, whichever comes first".

Delete subsection 2 in its entirety and replace it with the following:

The Contractor must pay the transportation cost associated with returning the Work or any part of the Work to the Contractor's plant for replacement, repair or making good. The Contractor must also pay the transportation cost associated with forwarding the replacement or returning the Work or part of the Work when rectified to the delivery point specified in the Contract or to another location as directed by Canada. If, in the opinion of Canada, it is not expedient to remove the Work from its location, the Contractor must carry out any necessary repair or making good of the Work at that location. In such cases, the Contractor will be responsible for all Costs (including travel and living expenses) incurred in so doing, Canada will not reimburse these Costs.

All other provisions of the warranty section remain in effect.

4006 (2010-08-16), Supplemental General Conditions - Contractor to Own Intellectual Property Rights in Foreground Information, apply to and form part of the Contract.

6.4 Term of Contract

6.4.1 Delivery Date

Delivery of the vehicle/equipment must be made as follows:

Firm Quantity

Twenty two (22) Runway Snow Blowers and ancillary items must be delivered within to be inserted by PWGSC weeks/calendar days from the effective date of the contract.

Twenty four (24) Runway Snow Plows and ancillary items, and thirty three (33) Towed Cradle Broom Sweepers and ancillary items, must be delivered within to be inserted by PWGSC weeks/calendar days from the effective date of the contract.

Twelve (12) Aircraft De-Icers/Anti-Icers 8,000L and ancillary items must be delivered within to be inserted by PWGSC weeks/calendar days from the effective date of the contract.

Optional Quantity

If the option is exercised, up to two (2) Runway Snow Blowers and ancillary items must be delivered within to be inserted by PWGSC weeks/calendar days after an option is exercised.

If the option is exercised, up to five (5) Runway Snow Plows and ancillary items, and up to five (5) Towed Cradle Broom Sweepers and ancillary items, must be delivered within to be inserted by PWGSC weeks/calendar days after an option is exercised.

If the option is exercised, up to four (4) Aircraft De-Icer/Anti-Icer 8,000L and ancillary items must be delivered within to be inserted by PWGSC weeks/calendar days after an option is exercised.

6.5 Authorities

6.5.1 Contracting Authority

The Contracting Authority for the Contract is:

to be inserted by PWGSC

Supply Specialist
Public Services and Procurement Canada
Acquisitions Branch
LEFTD - HS Division
Place du Portage, Phase III, 7B1
Gatineau, Quebec K1A 0S5
Telephone: 873-469-
E-mail address: @pwgsc-tpsgc.gc.ca

The Contracting Authority is responsible for the management of the Contract and any changes to the Contract must be authorized in writing by the Contracting Authority. The Contractor must not perform work in excess of or outside the scope of the Contract based on verbal or written requests or instructions from anybody other than the Contracting Authority.

6.5.2 Procurement Authority

The Procurement Authority for the contract is:

To be inserted by PWGSC

DLP
National Defence Headquarters
Mgen. George R. Pearkes Building
101 Colonel By Drive
Ottawa, Ontario K1A 0K2
Telephone:
Facsimile:
E-mail address:

The Procurement Authority is the representative of the department or agency for whom the Work is being carried out under the Contract. The Procurement Authority is responsible for the implementation of tools and processes required for the administration of the Contract. The Contractor may discuss administrative matters identified in the Contract with the Procurement Authority; however, the Procurement Authority has no authority to authorize changes to the scope of the Work. Changes to the scope of Work can only be made through a contract amendment issued by the Contracting Authority.

6.5.3 Technical Authority

The Technical Authority for the Contract is:

To be inserted by PWGSC

National Defence Headquarters

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Mgen. George R. Pearkes Building
101 Colonel By Drive
Ottawa, Ontario K1A 0K2
Telephone:
Facsimile:
E-mail address:

The Technical Authority is the representative of the department or agency for whom the Work is being carried out under the Contract and is responsible for all matters concerning the technical content of the Work under the Contract. Technical matters may be discussed with the Technical Authority; however, the Technical Authority has no authority to authorize changes to the scope of the Work. Changes to the scope of the Work can only be made through a contract amendment issued by the Contracting Authority.

6.5.4 Contractor's Representative

General enquiries

Name: _____
Telephone No.: _____
Facsimile No.: _____
E-mail address: _____

Delivery follow-up

Name: _____
Telephone No.: _____
Facsimile No.: _____
E-mail address: _____

6.5.5 After Sales Service

6.5.5.1 After Sales Service – 3 Wing Bagotville

The following dealer and/or agent is authorized to provide after sales service, maintenance and warranty repairs; and a full range of repair parts for the vehicle/equipment offered:

Distance between the delivery location and the dealer and/or agent: _____ km

Name: _____
Address: _____
Telephone No.: _____

6.5.5.2 After Sales Service – 4 Wing Cold Lake

The following dealer and/or agent is authorized to provide after sales service, maintenance and warranty repairs; and a full range of repair parts for the vehicle/equipment offered:

Distance between the delivery location and the dealer and/or agent: _____ km

Name: _____
Address: _____
Telephone No.: _____

6.5.5.3 After Sales Service – 8 Wing Trenton

The following dealer and/or agent is authorized to provide after sales service, maintenance and warranty repairs; and a full range of repair parts for the vehicle/equipment offered:

Distance between the delivery location and the dealer and/or agent: _____ km

Solicitation No. - N° de l'invitation
DRAFT - W8476-175634/A - DRAFT
Client Ref. No. - N° de réf. du client
W8476-175634

Amd. No. - N° de la modif.
File No. - N° du dossier
HS634.W8476-175634

Buyer ID - Id de l'acheteur
HS634
CCC No./N° CCC - FMS No./N° VME

Name: _____
Address: _____
Telephone No.: _____

6.5.5.4 After Sales Service – 14 Wing Greenwood

The following dealer and/or agent is authorized to provide after sales service, maintenance and warranty repairs; and a full range of repair parts for the vehicle/equipment offered:

Distance between the delivery location and the dealer and/or agent: _____ km

Name: _____
Address: _____
Telephone No.: _____

6.5.5.5 After Sales Service – 17 Wing Winnipeg

The following dealer and/or agent is authorized to provide after sales service, maintenance and warranty repairs; and a full range of repair parts for the vehicle/equipment offered:

Distance between the delivery location and the dealer and/or agent: _____ km

Name: _____
Address: _____
Telephone No.: _____

6.5.5.6 After Sales Service – 19 Wing Comox

The following dealer and/or agent is authorized to provide after sales service, maintenance and warranty repairs; and a full range of repair parts for the vehicle/equipment offered:

Distance between the delivery location and the dealer and/or agent: _____ km

Name: _____
Address: _____
Telephone No.: _____

6.6 Payment

6.6.1 Basis of Payment

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid as follows:

6.6.1.1 Basis of Payment Type 1

Firm unit prices in Canadian dollars, Delivered Duty Paid at destination, Incoterms 2000, including Canadian Custom Duties and Excise Taxes included where applicable, and Applicable Taxes are extra, as specified in Annex A - Pricing.

The price paid will be adjusted in accordance with the exchange rate fluctuation provision (as applicable).

6.6.1.2 Basis of Payment Type 2

Firm unit prices in Canadian dollars, Delivered Duty Paid at destination (shipping cost extra in accordance with Basis of Payment Type 3), Incoterms 2000, including Canadian Custom Duties and Excise Taxes included where applicable, and Applicable Taxes are extra, as specified in Annex A - Pricing.

The price paid will be adjusted in accordance with the exchange rate fluctuation provision (as applicable).

6.6.1.3 Basis of Payment Type 3

The Contractor will be reimbursed the actual shipping cost from the Contractor's Canadian facility or the Contractor's Canadian distribution point to the final destination without any allowance for profit and/or administrative overhead, in Canadian dollars and Applicable Taxes extra.

6.6.1.4 Basis of Payment Type 4

Training Option

Firm unit prices in Canadian dollars, including Canadian Custom Duties where applicable, and Applicable Taxes are extra, as specified in Annex A - Pricing.

Travel and Living Expenses

The Contractor will be reimbursed its authorized travel and living expenses reasonably and properly incurred in the performance of the Work, at cost, without any allowance for profit and/or administrative overhead, in accordance with the meal, private vehicle and incidental expenses provided in Appendices B, C and D of the National Joint Council Travel Directive (<http://www.njc-cnm.gc.ca/directive/index.php?sid=90&hl=1&lang=eng>), and with the other provisions of the directive referring to "travellers", rather than those referring to "employees".

All travel must have the prior authorization of the Technical Authority. All payments are subject to government audit.

When requested by Canada, the Contractor must provide an estimated cost and relevant information for the travel and living.

6.6.1.1 Basis of Payment Type 5

Firm unit prices in Canadian dollars, Applicable Taxes are extra, as specified in Annex A - Pricing.

6.6.2 Electronic Payment of Invoices

The Contractor accepts to be paid using the following Electronic Payment Instrument(s):

- a. Visa Acquisition Card;
- b. MasterCard Acquisition Card;
- c. Direct Deposit (Domestic and International);
- d. Electronic Data Interchange (EDI);
- e. Wire Transfer (International Only);
- f. Large Value Transfer System (LVTS) (Over \$25M)

6.6.3 SACC Manual Clauses

SACC Reference	Title	Date
C6000C	Limitation of Price	2011-05-16
H1001C	Multiple Payments	2008-05-12
C3015C	Exchange Rate Fluctuation Adjustment	2017-08-17

6.7 Invoicing

6.7.1 Invoicing Instructions

1. The Contractor must submit invoices in accordance with the section entitled "Invoice Submission" of the general conditions.

2. Invoices cannot be submitted before delivery, inspection and acceptance of the vehicle/equipment/service.
3. The Applicable Taxes must be calculated on the total amount of the invoice before the holdback is applied. At the time the holdback is claimed, there will be no taxes payable as they were claimed and payable under the previous invoice for the vehicle/equipment/service.
4. Upon delivery, inspection and acceptance of all ancillary items related to such vehicle/equipment/service the Contractor can submit an invoice for the release of the holdback.
5. Each invoice must be supported by:
 - (a) a copy of the invoices, receipts, vouchers for all direct expenses, and all travel and living expenses;
6. The Contractor is requested to provide invoices in electronic format unless otherwise specified by the Contracting Authority or Procurement Authority, thereby reducing printed material.
7. Invoices must be distributed as follows:
 - (a) The original must be forwarded or emailed to the Procurement Authority identified under the section entitled "Authorities" of the Contract for acceptance and payment.
 - (b) One (1) copy must be forwarded or emailed to the Contracting Authority identified under the section entitled "Authorities" of the Contract.

6.7.2 Holdback

1. Canada will apply a ten (10) percent holdback on any due payment for the vehicle/equipment/service (Items 01 and Items 05) until delivery, inspection and acceptance of all ancillary items related to such vehicle/equipment/service.
2. Subsequent to delivery, inspection and acceptance of all ancillary items related to such vehicle/equipment/service the Contractor must submit an invoice for the release of the Holdback in accordance with "Invoicing Instructions" found in this contract.

6.8 Certifications

6.8.1 Compliance

The continuous compliance with the certifications provided by the Contractor in its bid and the ongoing cooperation in providing additional information are conditions of the Contract. Certifications are subject to verification by Canada during the entire period of the Contract. If the Contractor does not comply with any certification, fails to provide the additional information, or if it is determined that any certification made by the Contractor in its bid is untrue, whether made knowingly or unknowingly, Canada has the right, pursuant to the default provision of the Contract, to terminate the Contract for default.

6.8.2 Federal Contractors Program for Employment Equity - Default by the Contractor

The Contractor understands and agrees that, when an Agreement to Implement Employment Equity (AIEE) exists between the Contractor and Employment and Social Development Canada (ESDC)-Labour, the AIEE must remain valid during the entire period of the Contract. If the AIEE becomes invalid, the name of the Contractor will be added to the "FCP Limited Eligibility to Bid" list. The imposition of such a sanction by ESDC will constitute the Contractor in default as per the terms of the Contract.

6.9 Applicable Laws - Contract

The Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Ontario.

6.10 Priority of Documents

If there is a discrepancy between the wording of any documents that appear on the list, the wording of the document that first appears on the list has priority over the wording of any document that subsequently appears on the list.

- (a) the Articles of Agreement;
- (b) the 2010A (2016-04-04) General Conditions - Medium Complexity - Goods;
- (c) Annex A - Pricing;
- (d) Annex B - Purchase Description for Runway Snow Blower, dated 2017-12-13;
- (e) Annex C - Purchase Description for Multi-Tasking Equipment with Runway Snow Plow and Towed Cradle Broom Sweeper, dated 2017-12-13;
- (f) Annex D - Purchase Description for Aircraft De-Icer/Anti-Icer 8,000L, dated 2017-12-13;
- (g) The Contractor's bid dated (to be inserted by PWGSC), as amended (to be inserted by PWGSC).

6.11 SACC Manual Clauses

SACC Reference	Title	Date
A1009C	Work Site Access	2008-05-12
A9006C	Defence Contract	2012-07-16
A9049C	Vehicle Safety	2011-05-16
A9062C	Canadian Forces Site Regulations	2011-05-16
C2800C	Priority Rating	2013-01-28
C2801C	Priority Rating - Canadian Contractors	2011-11-27
D5510C	Quality Assurance Authority - (DND) - Canadian Based Contractor	2014-06-26
D5515C	Quality Assurance Authority (DND) - Foreign-based and United States Contractor	2010-01-11
D5540C	ISO 9001:2008 Quality Management Systems - Requirements (QAC Q)	2010-08-16
D5604C	Release Document (DND) - Foreign Based Contractor	2008-12-12
D5605C	Release Documents (DND) - United States-based Contractor	2010-01-11
D5606C	Release Documents (DND) - Canadian-based Contractor	2012-07-16
G1005C	Insurance	2016-01-28

6.12 Inspection and Acceptance

The Technical Authority is the Inspection Authority. All reports, deliverable items, documents, goods and all services rendered under the Contract are subject to inspection by the Inspection Authority or representative. Should any report, document, good or service not be in accordance with the requirements of the Purchase Description and to the satisfaction of the Inspection Authority, as submitted, the Inspection Authority will have the right to reject it or require its correction at the sole expense of the Contractor before recommending payment.

6.13 Preparation for Delivery

The vehicle/equipment must be serviced, adjusted and delivered in condition for immediate use. The interior and exterior must be cleaned before leaving the factory and being released to the inspection authority or consignee at the final delivery location.

6.14 Shipping Instructions - Delivery at Destination

1. The Contractor must ship the goods prepaid DDP - Delivered Duty Paid (in accordance with Annex A - Pricing) as specified below. Unless otherwise directed, delivery must be made by the most economical means. The Contractor is responsible for all delivery charges, administration, costs and risks of transport and customs clearance, including the payment of customs duties and Applicable Taxes.
2. The Contractor must deliver the goods by appointment only. The Contractor or its carrier must arrange delivery appointments by contacting the person identified in Annex A - Pricing. The consignee may refuse shipments when prior arrangements have not been made.

6.15 Delivery and Unloading

Delivery trucks must be equipped with an unloading device which will permit unloading at sites with no hydraulic, stationary or other type of unloading facility.

6.16 Release Documents - Distribution

The Contractor must prepare the release documents in a current electronic format and distribute them as follows:

One (1) copy mailed to consignee marked: "Attention: Receipts Officer";

Two (2) copies with shipment (in a waterproof envelope) to the consignee;

One (1) copy to the Contracting Authority;

One (1) copy to:

National Defence Headquarters
Mgen George R. Pearkes Building
101 Colonel By Drive
Ottawa, ON K1A OK2
Attention: **to be inserted by PWGSC**

One (1) copy to the Quality Assurance Representative;

One (1) copy to the Contractor; and

For all non-Canadian contractors, one (1) copy to:

DQA/Contract Administration
National Defence Headquarters
Mgen George R. Pearkes Building
101 Colonel By Drive
Ottawa, ON K1A OK2
E-mail: ContractAdmin.DQA@forces.gc.ca.

6.17 Post-Contract Award Meeting

Within ten (10) calendar days from the effective date of the Contract, the Contractor must contact the Contracting Authority to determine if a post-contract award meeting is required. A meeting will be convened at the discretion of the Technical Authority after contract award to review technical and contractual requirements. The Contractor must be responsible for the preparation and distribution of the minutes of meeting within five (5) calendar days after the meeting has been held. The meeting will be held at the Contractor's facilities or at the Department of National Defence facility or via teleconference, at Canada's discretion at no additional cost to Canada, with representatives of the Contractor, the Department of National Defence and Public Works and Government Services Canada.

6.18 Progress Meetings

Progress meetings, chaired by the Contracting Authority, will take place at the Contractor's facility as and when required, generally once a month. Interim meetings may also be scheduled. Contractor's attendees at these meetings will, as a minimum, be its Contract (Project) Manager, Production Manager (Superintendent) and Quality Assurance Manager. Progress meetings will generally incorporate technical meetings to be chaired by the Technical Authority.

Progress meetings and interim meetings must be at no additional cost to Canada.

6.19 Progress Reports

The Contractor must prepare and submit a monthly progress report electronically to the Procurement Authority, Technical Authority and Contracting Authority.

The Contractor must answer the following questions:

- (i) Is the delivery of the vehicle/equipment and ancillary items on schedule?
- (ii) Is this requirement free of any areas of concern in which the assistance or guidance of Canada may be required?

Each negative response must be supported with an explanation.

6.20 Tools and Loose Equipment

For shipment verification, all items and tools, which are shipped loose with the vehicle/equipment must be listed on the Inspection Certificate (CF1280) or on an attached packing note.

6.21 Assembly/Preparation at Delivery

The Contractor must send a Service Representative to each delivery destination to perform the assembly/preparation on all vehicles/equipment delivered. The assembly/preparation must be performed at no additional cost to Canada.

6.22 Interchangeability

Unless changes during the production run are authorized by the Contracting Authority, all vehicles/equipment supplied against any one item of a contract must be the same make and model, and all like assemblies, sub-assemblies and parts must be interchangeable.

6.23 Additional Work Requirements

During the course of the Work, Additional Work Requirements (AWR) may be required by Canada for different type of work on the vehicles. A Statement of Work defining the Work to be performed will be included in, or appended to, the request for authorization to be submitted to the CA for approval.

If the vehicle modification requirements need to be applied to all vehicles, then this will be subject to a formal amendment to incorporate the change into the Contract.

The Contractor must include in its proposal, as a minimum, the following information:

- a) Detailed description of the Work to be performed;
- b) CFR # affected, if applicable;
- c) A proposed price in accordance with the basis of payment; and
- d) Delivery date proposal or where applicable, impact on the schedule.

The AWR must be carried out only after receipt of written authorization.

All AWRs regardless of value must be authorized by the CA. Once approved, the CA will forward a signed copy of the authorized AWR task to the Contractor on a Task Authorization Form.

6.24 Recommended Spare Parts List – Contract

1. The Contractor must, within 20 days after contract award, provide to the Procurement Authority a Recommended Spare Parts List (RSPL) prepared in accordance with the current issue of Canadian Forces Specification D-01-100-214/SF-000. The RSPL must contain the Contractor's recommendation for spares required to maintain the equipment for a 24-month period, and must provide the basis for the spares selection to be made by Department of National Defence. Upon request from the Contractor, the specification will be provided by the Contracting Authority.
2. Supplementary Provisioning Technical Documentation (SPTD), as prepared by the actual manufacturer of the item, is required for the codification and cataloguing of all items listed in the RSPL. The SPTD called up in the above specification must accompany the RSPL as detailed in the specification. Specific details of the data elements required must be listed on a Provisioning Documentation Selection Sheet, prepared in accordance with the above specification, and be submitted in electronic ASCII text format.
3. Questions regarding the preparation, format or contents of the above provisioning documentation must be directed to the Procurement Authority.

Annex A - Pricing
Appendix A1 - Runway Snow Blower

Manufacturer:	
Year and Model:	

Firm Quantity

Item 1: The Contractor must deliver the Runway Snow Blowers and ancillary items in accordance with the Purchase Description for Runway Snow Blower, dated 2017-12-13. The firm unit price must be in accordance with Part 6, Basis of Payment Type 1.

Item 2: The Contractor must deliver the Integrated Logistic Support items in accordance with the Purchase Description for Runway Snow Blower, dated 2017-12-13. The firm unit price must be in accordance with Part 6, Basis of Payment Type 1.

Item 3: The Contractor must deliver the training sessions in accordance with the Purchase Description for Runway Snow Blower, dated 2017-12-13. The firm unit price must be in accordance with Part 6, Basis of Payment Type 1.

Item 4: If available and exercised, the Contractor must extend the warranty period by the additional period identified in the Extended Warranty Period section below. The firm unit price must be in accordance with Part 6, Basis of Payment Type 5. This item will not be included in the financial evaluation.

Item	Description	PD Reference	Quantity	Firm Unit Price
1	Runway Snow Blower - Firm Quantity			
1.1	3 Wing Bagotville	3	4	
1.2	4 Wing Cold Lake	3	3	
1.3	8 Wing Trenton	3	5	
1.4	14 Wing Greenwood	3	4	
1.5	17 Wing Winnipeg	3	3	
1.6	19 Wing Comox	3	3	
2	Integrated Logistic Support (ILS) - Firm Quantity			
2.1	Operator Manuals - Bilingual	4.1.1	22	
2.2	Parts Manual(s) - English	4.1.2	22	
2.3	Maintenance Manuals - English	4.1.3	22	
2.4	Warranty Letter	4.2	22	
2.5	Data Summary - Bilingual	4.3.1	22	
2.6	Photographs	4.3.2	1	

2.7	Dimensioned Drawings	4.3.3	1	
2.8	Special Tools List	4.3.4	1	
2.9	Preventive Maintenance Replacement Parts Kit List (PMRPKL)	4.3.5	1	
2.10	Recommended Spare Parts List (RSPL)	4.3.6	1	
2.11	Supplementary Provisioning Technical Documentation (SPTD)	4.3.7	1	
2.12	Initial Parts Kit	4.5	22	
3	Training - Firm Quantity			
3.1	Maintenance Training - English	4.6.1	6	
3.2	Maintenance Training - French	4.6.1		
3.3	Operator Training - English	4.6.3	6	
3.4	Operator Training - French	4.6.3		
4	Extended Warranty Period	Months	Hours	Firm unit price
4.1	Warranty Period Extended To			

Delivery locations

3 Wing Bagotville
Major Equipment Section
3 Ere BFC Bagotville
Bagotville, Qc
GOV 1A0

The contact person at destination is : To be inserted by PWGSC

4 Wing Cold Lake
Major Equipment Section
4 Wing Cold Lake Sup Flt Bldg. 171
Cold Lake, AB
T9M 2C6

The contact person at destination is : To be inserted by PWGSC

8 Wing Trenton
Major Equipment Section
8 Wing Supply Trenton
46 Portage Dr, BLDG 162
Trenton, On
K0K 3W0

The contact person at destination is : To be inserted by PWGSC

14 Wing Greenwood
Major Equipment Section
CFB Greenwood
Greenwood, NS
B0P 1N0

The contact person at destination is : To be inserted by PWGSC

17 Wing Winnipeg
Major Equipment Section
17 Wing Winnipeg, Bldg.129
Logistics Bldg., Door 13
Winnipeg, MB
R3J 3Y5

The contact person at destination is : To be inserted by PWGSC

19 Wing Comox
Major Equipment Section
Comox, BC
V0R 2K0

The contact person at destination is : To be inserted by PWGSC

Optional Quantity

Item 5: If exercised, the Contractor must deliver the Runway Snow Blowers and ancillary items in accordance with the Purchase Description for Runway Snow Blower, dated 2017-12-13. The firm unit price must be in accordance with Part 6, Basis of Payment Type 2.

Item 6: If exercised, the Contractor must deliver the Integrated Logistic Support items in accordance with the Purchase Description for Runway Snow Blower, dated 2017-12-13. The firm unit price must be in accordance with Part 6, Basis of Payment Type 2.

Item 7: If exercised, the Contractor must deliver the training sessions in accordance with the Purchase Description for Runway Snow Blower, dated 2017-12-13. The firm unit price must be in accordance with Part 6, Basis of Payment Type 4.

Item 8: If exercised, the Contractor will be entitled to Travel and Living Expenses to provide the training sessions in accordance with Part 6, Basis of Payment Type 4. This item will not be included in the financial evaluation.

Item 9: If exercised, the Contractor must deliver the Runway Snow Blower and ancillary items to the destination specified herein at the actual shipping cost in accordance with Part 6, Basis of Payment Type 3. This item will not be included in the financial evaluation.

Item 10: If available and exercised, the Contractor must extend the warranty period by the additional period identified in the Extended Warranty Period section below. The firm unit price must be in accordance with Part 6, Basis of Payment Type 5. This item will not be included in the financial evaluation.

Item	Description	PD Reference	Quantity of Up To	Firm Unit Price
5	Runway Snow Blower (Optional Quantity)			
5.1	Year 1 - First 12-month period from date of contract award	3	2	
5.2	Year 2 - Second 12-month period from date of contract award	3		
6	Integrated Logistic Support (ILS) Option			
6.1	Operator Manuals - Bilingual	4.1.1	2	
6.2	Parts Manual(s) - English	4.1.2	2	
6.3	Maintenance Manuals - English	4.1.3	2	
6.4	Warranty Letter	4.2	2	
6.5	Data Summary - Bilingual	4.3.1	2	
6.6	Initial Parts Kit	4.5	2	

7	Training Option			
7.1	Maintenance Training - English	4.6.1	2	
7.2	Maintenance Training - French	4.6.1		
7.3	Operator Training - English	4.6.3	2	
7.4	Operator Training - French	4.6.3		
8	Travel and Living Expenses – National Joint Council Directive			
8.1	Estimated Cost			
9	Transportation Cost (Optional Quantities)			
9.1	Actual Shipping Cost			
10	Extended Warranty Period	Months	Hours	Firm unit price
10.1	Warranty Period Extended To			

Delivery locations

To be inserted by PWGSC if exercised.

Annex A - Pricing

Appendix A2 - Multi-Tasking Equipment (MTE) with Runway Snow Plow and Towed Cradle Broom Sweeper

Manufacturer:	
Year and Model:	

Firm Quantity

Item 1: The Contractor must deliver the Multi-Tasking Equipment (MTE) with Runway Snow Plows and Towed Cradle Broom Sweepers and ancillary items in accordance with the Purchase Description for Multi-Tasking Equipment (MTE) with Runway Snow Plow and Towed Cradle Broom Sweeper, dated 2017-12-13. The firm unit price must be in accordance

Item 2: The Contractor must deliver the Integrated Logistic Support items in accordance with the Purchase Description for Multi-Tasking Equipment (MTE) with Runway Snow Plow and Towed Cradle Broom Sweeper, dated 2017-12-13. The firm unit price must be in accordance with Part 6, Basis of Payment Type 1.

Item 3: The Contractor must deliver the training sessions in accordance with the Purchase Description for Multi-Tasking Equipment (MTE) with Runway Snow Plow and Towed Cradle Broom Sweeper, dated 2017-12-13. The firm unit price must be in accordance with Part 6, Basis of Payment Type 1.

Item 4: If available and exercised, the Contractor must extend the warranty period by the additional period identified in the Extended Warranty Period section below. The firm unit price must be in accordance with Part 6, Basis of Payment Type 5. This item will not be included in the financial evaluation.

Item	Description	PD Reference	Quantity	Firm Unit Price
1A	Multi-Tasking Equipment (MTE) with Runway Snow Plow - Firm Quantity			
1A.1	3 Wing Bagotville	3	3	
1A.2	4 Wing Cold Lake	3	6	
1A.3	8 Wing Trenton	3	8	
1A.4	14 Wing Greenwood	3	5	
1A.5	17 Wing Winnipeg	3	2	
1A.6	19 Wing Comox	3	0	
1B	Towed Cradle Broom Sweeper - Firm Quantity			
1B.1	3 Wing Bagotville	3	6	
1B.2	4 Wing Cold Lake	3	8	
1B.3	8 Wing Trenton	3	9	

1B.4	14 Wing Greenwood	3	5	
1B.5	17 Wing Winnipeg	3	2	
1B.6	19 Wing Comox	3	3	
2	Integrated Logistic Support (ILS) - Firm Quantity			
2.1	Operator Manuals - Bilingual	4.1.1	24	
2.2	Parts Manual(s) - English	4.1.2	24	
2.3	Maintenance Manuals - English	4.1.3	24	
2.4	Warranty Letter	4.2	24	
2.5	Data Summary - Bilingual	4.3.1	24	
2.6	Photographs	4.3.2	1	
2.7	Dimensioned Drawings	4.3.3	1	
2.8	Special Tools List	4.3.4	1	
2.9	Preventive Maintenance Replacement Parts Kit List (PMRPKL)	4.3.5	1	
2.10	Recommended Spare Parts List (RSPL)	4.3.6	1	
2.11	Supplementary Provisioning Technical Documentation (SPTD)	4.3.7	1	
2.12	Initial Parts Kit	4.5	24	
3	Training - Firm Quantity			
3.1	Maintenance Training - English	4.6.1	5	
3.2	Maintenance Training - French	4.6.1		
3.3	Operator Training - English	4.6.3	5	
3.4	Operator Training - French	4.6.3		
4	Extended Warranty Period	Months	Hours	Firm unit price
4.1	Warranty Period Extended To			

Delivery locations

3 Wing Bagotville
Major Equipment Section
3 Ere BFC Bagotville
Bagotville, Qc
G0V 1A0

The contact person at destination is : To be inserted by PWGSC

4 Wing Cold Lake
Major Equipment Section
4 Wing Cold Lake Sup Flt Bldg. 171
Cold Lake, AB
T9M 2C6

The contact person at destination is : To be inserted by PWGSC

8 Wing Trenton
Major Equipment Section
8 Wing Supply Trenton
46 Portage Dr, BLDG 162
Trenton, On
K0K 3W0

The contact person at destination is : To be inserted by PWGSC

14 Wing Greenwood
Major Equipment Section
CFB Greenwood
Greenwood, NS
B0P 1N0

The contact person at destination is : To be inserted by PWGSC

17 Wing Winnipeg
Major Equipment Section
17 Wing Winnipeg, Bldg.129
Logistics Bldg., Door 13
Winnipeg, MB
R3J 3Y5

The contact person at destination is : To be inserted by PWGSC

19 Wing Comox
Major Equipment Section
Comox, BC
V0R 2K0

The contact person at destination is : To be inserted by PWGSC

Optional Quantity

Item 5: If exercised, the Contractor must deliver the Multi-Tasking Equipment (MTE) with Runway Snow Plows and Towed Cradle Broom Sweepers and ancillary items in accordance with the Purchase Description for Multi-Tasking Equipment (MTE) with Runway Snow Plow and Towed Cradle Broom Sweeper, dated 2017-12-13. The firm unit price must be in

Item 6: If exercised, the Contractor must deliver the Integrated Logistic Support items in accordance with the Purchase Description for Multi-Tasking Equipment (MTE) with Runway Snow Plow and Towed Cradle Broom Sweeper, dated 2017-12-13. The firm unit price must be in accordance with Part 6, Basis of Payment Type 2.

Item 7: If exercised, the Contractor must deliver the training sessions in accordance with the Purchase Description for Multi-Tasking Equipment (MTE) with Runway Snow Plow and Towed Cradle Broom Sweeper, dated 2017-12-13. The firm unit price must be in accordance with Part 6, Basis of Payment Type 4.

Item 8: If exercised, the Contractor will be entitled to Travel and Living Expenses to provide the training sessions in accordance with Part 6, Basis of Payment Type 4. This item will not be included in the financial evaluation.

Item 9: If exercised, the Contractor must deliver the Multi-Tasking Equipment (MTE) with Runway Snow Plow and Towed Cradle Broom Sweeper and ancillary items to the destination specified herein at the actual shipping cost in accordance with Part 6, Basis of Payment Type 3. This item will not be included in the financial evaluation.

Item 10: If available and exercised, the Contractor must extend the warranty period by the additional period identified in the Extended Warranty Period section below. The firm unit price must be in accordance with Part 6, Basis of Payment Type 5. This item will not be included in the financial evaluation.

Item	Description	PD Reference	Quantity of Up To	Firm Unit Price
5A	Multi-Tasking Equipment (MTE) with Runway Snow Plow - Optional Quantity			
5A.1	Year 1 - First 12-month period from date of contract award	3	5	
5A.2	Year 2 - Second 12-month period from date of contract award	3		
5B	Towed Cradle Broom Sweeper - Optional Quantity			
5B.1	1st Year - First 12-month period from date of contract award	3	5	
5B.2	2nd year - Second 12-month period from date of contract award	3		

6	Integrated Logistic Support (ILS) Option			
6.1	Operator Manuals - Bilingual	4.1.1	2	
6.2	Parts Manual(s) - English	4.1.2	2	
6.3	Maintenance Manuals - English	4.1.3	2	
6.4	Warranty Letter	4.2	2	
6.5	Data Summary - Bilingual	4.3.1	2	
6.6	Initial Parts Kit	4.5	2	
7	Training Option			
7.1	Maintenance Training - English	4.6.1	2	
7.2	Maintenance Training - French	4.6.1		
7.3	Operator Training - English	4.6.3	2	
7.4	Operator Training - French	4.6.3		
8	Travel and Living Expenses – National Joint Council Directive			
8.1	Estimated Cost			
9	Transportation Cost (Optional Quantities)			
9.1	Actual Shipping Cost			
10	Extended Warranty Period	Months	Hours	Firm unit price
10.1	Warranty Period Extended To			

Delivery locations

To be inserted by PWGSC if exercised.

Annex A - Pricing
Appendix A3 - Aircraft De-Icer/Anti-Icer 8,000L

Manufacturer:	
Year and Model:	

Firm Quantity

Item 1: The Contractor must deliver the Aircraft De-Icers/Anti-Icers 8,000L and ancillary items in accordance with the Purchase Description for Aircraft De-Icer/Anti-Icer 8,000L, dated 2017-12-13. The firm unit price must be in accordance with Part 6, Basis of Payment Type 1.

Item 2: The Contractor must deliver the Integrated Logistic Support items in accordance with the Purchase Description for Aircraft De-Icer/Anti-Icer 8,000L, dated 2017-12-13. The firm unit price must be in accordance with Part 6, Basis of Payment Type 1.

Item 3: The Contractor must deliver the training sessions in accordance with the Purchase Description for Aircraft De-Icer/Anti-Icer 8,000L, dated 2017-12-13. The firm unit price must be in accordance with Part 6, Basis of Payment Type 1.

Item 4: If available and exercised, the Contractor must extended the warranty period by the additional period identified in the Extended Warranty Period section below. The firm unit price must be in accordance with Part 6, Basis of Payment Type 5. This item will not be included in the financial evaluation.

Item	Description	PD Reference	Quantity	Firm Unit Price
1	Aircraft De-Icer/Anti-Icer 8,000L - Firm Quantity			
1.1	3 Wing Bagotville	3	0	
1.2	4 Wing Cold Lake	3	4	
1.3	8 Wing Trenton	3	2	
1.4	14 Wing Greenwood	3	4	
1.5	17 Wing Winnipeg	3	0	
1.6	19 Wing Comox	3	2	
2	Integrated Logistic Support (ILS) - Firm Quantity			
2.1	Operator Manuals - Bilingual	4.1.1	12	
2.2	Parts Manual(s) - English	4.1.2	12	
2.3	Maintenance Manuals - English	4.1.3	12	
2.4	Warranty Letter	4.2	12	
2.5	Data Summary - Bilingual	4.3.1	12	
2.6	Photographs	4.3.2	1	

2.7	Dimensioned Drawings	4.3.3	1	
2.8	Special Tools List	4.3.4	1	
2.9	Preventive Maintenance Replacement Parts Kit List (PMRPKL)	4.3.5	1	
2.10	Recommended Spare Parts List (RSPL)	4.3.6	1	
2.11	Supplementary Provisioning Technical Documentation (SPTD)	4.3.7	1	
2.12	Initial Parts Kit	4.5	12	
3	Training - Firm Quantity			
3.1	Maintenance Training - English	4.6.1	4	
3.2	Maintenance Training - French	4.6.1		
3.3	Operator Training - English	4.6.3	4	
3.4	Operator Training - French	4.6.3		
4	Extended Warranty Period	Months	Hours	Firm unit price
4.1	Warranty Period Extended To			

Delivery locations

3 Wing Bagotville
Major Equipment Section
3 Ere BFC Bagotville
Bagotville, Qc
G0V 1A0

The contact person at destination is : To be inserted by PWGSC

4 Wing Cold Lake
Major Equipment Section
4 Wing Cold Lake Sup Flt Bldg. 171
Cold Lake, AB
T9M 2C6

The contact person at destination is : To be inserted by PWGSC

8 Wing Trenton
Major Equipment Section
8 Wing Supply Trenton
46 Portage Dr, BLDG 162
Trenton, On
K0K 3W0

The contact person at destination is : To be inserted by PWGSC

14 Wing Greenwood
Major Equipment Section
CFB Greenwood
Greenwood, NS
B0P 1N0

The contact person at destination is : To be inserted by PWGSC

17 Wing Winnipeg
Major Equipment Section
17 Wing Winnipeg, Bldg.129
Logistics Bldg., Door 13
Winnipeg, MB
R3J 3Y5

The contact person at destination is : To be inserted by PWGSC

19 Wing Comox
Major Equipment Section
Comox, BC
V0R 2K0

The contact person at destination is : To be inserted by PWGSC

Optional Quantity

Item 5: If exercised, the Contractor must deliver the Aircraft De-Icers/Anti-Icers 8,000L and ancillary items in accordance with the Purchase Description for Aircraft De-Icer/Anti-Icer 8,000L, dated 2017-12-13. The firm unit price must be in accordance with Part 6, Basis of Payment Type 2.

Item 6: If exercised, the Contractor must deliver the Integrated Logistic Support items in accordance with the Purchase Description for Aircraft De-Icer/Anti-Icer 8,000L, dated 2017-12-13. The firm unit price must be in accordance with Part 6, Basis of Payment Type 2.

Item 7: If exercised, the Contractor must deliver the training sessions in accordance with the Purchase Description for Aircraft De-Icer/Anti-Icer 8,000L, dated 2017-12-13. The firm unit price must be in accordance with Part 6, Basis of Payment Type 4.

Item 8: If exercised, the Contractor will be entitled to Travel and Living Expenses to provide the training sessions in accordance with Part 6, Basis of Payment Type 4. This item will not be included in the financial evaluation.

Item 9: If exercised, the Contractor must deliver the Aircraft De-Icer/Anti-Icer 8,000L and ancillary items to the destination specified herein at the actual shipping cost in accordance with Part 6, Basis of Payment Type 3. This item will not be included in the financial evaluation.

Item 10: If available and exercised, the Contractor must extend the warranty period by the additional period identified in the Extended Warranty Period section below. The firm unit price must be in accordance with Part 6, Basis of Payment Type 5. This item will not be included in the financial evaluation.

Item	Description	PD Reference	Quantity of Up To	Firm Unit Price
5	Aircraft De-Icer/Anti-Icer 8,000L (Optional Quantity)			
5.1	Year 1 - First 12-month period from date of contract award	3	4	
5.2	Year 2 - Second 12-month period from date of contract award	3		
6	Integrated Logistic Support (ILS) Option			
6.1	Operator Manuals - Bilingual	4.1.1	4	
6.2	Parts Manual(s) - English	4.1.2	4	
6.3	Maintenance Manuals - English	4.1.3	4	
6.4	Warranty Letter	4.2	4	
6.5	Data Summary - Bilingual	4.3.1	4	
6.6	Initial Parts Kit	4.5	4	

7	Training Option			
7.1	Maintenance Training - English	4.6.1	4	
7.2	Maintenance Training - French	4.6.1		
7.3	Operator Training - English	4.6.3	4	
7.4	Operator Training - French	4.6.3		
8	Travel and Living Expenses – National Joint Council Directive			
8.1	Estimated Cost			
9	Transportation Cost (Optional Quantities)			
9.1	Actual Shipping Cost			
10	Extended Warranty Period	Months	Hours	Firm unit price
10.1	Warranty Period Extended To			

Delivery locations

To be inserted by PWGSC if exercised.



ANNEX B

PURCHASE DESCRIPTION FOR

Runway Snow Blower ECC 167130



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 5 – DAVPS 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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Canada

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1 SCOPE

1.1 Scope

- a) This purchase description covers the requirements of a self-propelled, two-stage runway snow blower with a minimum snow blowing capacity of 4082.3 metric tons (4500 short tons) per hour. The runway snow blower will be used to clear runways at Royal Canadian Air Force Wings across Canada.
- b) Canada will procure 22 runway snow blowers for delivery across Canada.

1.2 Instructions

- a) Requirements, which are identified by the word “**must**”, are 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 “**must**” or “will” are not used, the information supplied is for guidance only.
- d) In this document “provided” **must** mean “provided and installed”.
- e) Where a technical certification is referred to in this specification, a copy of the certification or an acceptable Proof of Compliance **must** be supplied for the vehicle when requested by the Technical Authority.
- f) Metric measurements are used to define the requirement. Other measurements are for reference only and may not be exact conversions.
- g) Nominal dimensions reflect a method by which materials or products are generally identified, but which differ from the actual measured dimensions.

1.3 Definitions

- a) “**Technical Authority**” - The government official responsible for technical content of this requirement.
- b) “**Equivalent**” - Substitutes and alternatives that are equivalent in product, performance or a standard will be considered for acceptance by the Technical Authority where Proof of Compliance for equivalency for the respective requirement is provided for evaluation.
- c) “**Vehicle**” – The entire vehicle including all systems and sub-systems, in a complete manufactured state in accordance with the requirements in this Purchase Description.
- d) “**5th percentile adult female**” – As defined in the *Motor Vehicle Safety Regulations (C.R.C., c. 1038)* a person having as physical characteristics a mass of 46.3 kg, height of 1499 mm, erect sitting height of 785 mm, normal sitting height of 752 mm, hip sitting breadth of 325 mm, hip sitting circumference of 925 mm, waist sitting circumference of 599 mm, chest depth of 191 mm, bust circumference of 775 mm, chest upper circumference of 757 mm, chest lower circumference of 676 mm, knee height of 455 mm, popliteal height of 356 mm, elbow rest height of 180 mm, thigh clearance height of 104 mm, buttock-to-knee length of 518 mm, buttock-to-poples length of 432 mm, elbow-to-elbow breadth of 312 mm and seat breadth of 312 mm.

- e) **“95th percentile adult male”** – As defined in the *Motor Vehicle Safety Regulations (C.R.C., c. 1038)* a person having as physical characteristics a mass of 97.5 kg, height of 1849 mm, erect sitting height of 965 mm, normal sitting height of 930 mm, hip sitting breadth of 419 mm, hip sitting circumference of 1199 mm, waist sitting circumference of 1080 mm, chest depth of 267 mm, chest circumference of 1130 mm, knee height of 594 mm, popliteal height of 490 mm, elbow rest height of 295 mm, thigh clearance height of 175 mm, buttock-to-knee length of 640 mm, buttock-to-poples length of 549 mm, elbow-to-elbow breadth of 506 mm and seat breadth of 404 mm.
- f) **“Gross Axle Weight Rating (GAWR)”** - The value specified by the vehicle manufacturer as the load-carrying capacity of a single axle system, as measured at the tire-ground interfaces.
- g) **“Gross Vehicle Weight Rating (GVWR)”** - The value specified by the vehicle manufacturer as the loaded weight of a single vehicle.

2 APPLICABLE DOCUMENTS

2.1 Government Furnished Document

D-01-100-214/SF-000

Specification for PREPARATION OF PROVISIONING DOCUMENTATION FOR CANADIAN FORCES EQUIPMENT

2.2 Applicable Documents

- a) The following documents form part of this Purchase Description. The dates of issue are those in effect on the date of release of the RFP. Canada will not be supplying these documents. Sources are as shown:

Canadian Occupational Health and Safety Regulations (COHSR), 2015

<http://laws.justice.gc.ca/eng/regulations/sor-86-304/index.html>

Advisory Circulars 300 Series – Aerodromes and Airports

Transport Canada
Government of Canada
330 Sparks Street
Ottawa, ON, K1A 0N5
<https://www.tc.gc.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>

SAE Handbook

SAE ARP5539 Rotary Plow with Carrier Vehicle

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

Hazardous Products Act

Government of Canada

<http://laws-lois.justice.gc.ca/eng/acts/H-3/>

3 REQUIREMENTS

3.1 Standard Design

- a) **Latest Model** - The vehicle design **must** be the manufacturer's latest model.
- b) **Industry Acceptability** - The vehicle design **must** have demonstrated industry acceptability by having been manufactured and sold commercially for at least 2 year, or be manufactured by a company that has at least 5 years' experience in design and manufacturing of a comparable type of equipment of equivalent or greater complexity.
- c) **Engineering Certification** - Original manufacturers engineering certification **must** be provided upon request for major drive train components, and major equipment systems and assemblies, to demonstrate that assemblies are used within their design limitations.
- d) **Regulations** – The vehicle **must** 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. International equivalent laws, regulations, and industrial standards will be accepted only if certified for equivalency by a professional engineer.
- e) **Published Ratings** - The vehicle **must** have system and component capacities equivalent to published ratings (i.e. product or component brochures).
- f) **Standard Components** - The vehicle **must** include all standard components, equipment and accessories for the model offered, although they may not be specifically described in this Purchase Description.
- g) **Spare Parts** - The manufacturer **must** ensure that components and parts used are readily available for a minimum period of fifteen (15) years from the date of manufacture.

3.2 Operating Conditions

3.2.1 Weather

- a) The vehicle **must** operate under the extremes of weather conditions found in Canada in temperatures ranging from -46 to 39° C (-50.8 F to 102° F) and cold starting from -40° C (-40 F) with external aids as specified in Paragraph 3.6.2.

3.2.2 Terrain

- a) The vehicle **must** be operable on concrete and asphalt surfaces that include year round operations on rain, snow, hard packed snow and ice with up to 2.0% (percent) slope in all weather conditions.

3.3 Safety Standards

3.3.1 Noise Level

- a) The vehicle noise level must meet the requirements of legislation relative to Canadian Occupational Health and Safety Regulations (COHSR).

3.3.2 Human Factors Engineering

- a) The vehicle, all systems, and components **must** comply with the relevant sections of the COHSR.
- b) The vehicle **must** be manufactured/assembled for safety and ease of use by CAF users with anthropometric characteristic measurements ranging from 95th percentile male to 5th percentile female.
- c) The vehicle **must** have entry and exit points equipped with handles and steps sized and positioned to accommodate CAF users with anthropometric characteristic measurements ranging from 95th percentile male to 5th percentile female.
- d) The vehicle **must** be equipped, with warning and instruction plates, non-slip walking surfaces and heat shields, for operator safety.

3.3.3 Design Standards

- a) The vehicle **must** be designed in accordance with the guidelines set out in SAE ARP5539 unless otherwise specified in this Purchase Description.

3.4 Vehicle Performance, Ratings and Dimensions

3.4.1 Performance

- a) The vehicle, at GVWR, **must** reach a minimum transport speed of 50 km/h, required for moving the vehicle between work locations.
- b) The vehicle **must** maintain a minimum working speed of 40 km/h while maintaining maximum blower head capacity.
- c) The vehicle **must** have a minimum snow blowing capacity of 4082.3 metric tons/hour (4500 short tons/hour).

3.4.2 Weight Ratings

- a) The GVWR of the vehicle **must** not be less than the sum of the unloaded vehicle mass, the cargo carrying capacity, and the product obtained by multiplying the designated seating capacity by 68kg as defined in the *Motor Vehicle Safety Regulations (C.R.C., c. 1038)*.
- b) Each GAWR **must** be equal to or less than the load rating of the weakest component in the axle system, i.e., axle housing, suspension, wheels, or tires.
- c) The total load on each axle of the vehicle **must** not exceed the GAWR for that axle.

3.4.3 Dimensions

- a) The maximum overall **height** of the vehicle **must** be 4.2 metres (13.7 feet).
- b) The maximum overall **length** of the vehicle **must** be 12.8 metres (42 feet).

- c) The maximum overall **width** of the vehicle **must** be 4.5 metres (14.7 feet).
- d) The vehicle minimum ground clearance during transport **must** be 200 mm (7.8 inches).

3.5 Frame

- a) The frame **must** be a purpose-built chassis manufactured for use in all conditions specified in Paragraph 3.2, 3.3 and 3.4.
- b) The vehicle **must** be equipped with tow points or hooks on the front and rear of the vehicle.
- c) The vehicle **must** be equipped with a licence plate holder with an LED light at the rear.

3.6 Engine

- a) The engine **must** operate on ultra-low sulphur diesel fuel to the CAN/CGSB Standard 3.517 and meet the latest emission standards.

3.6.1 Engine Components

- a) A replaceable air filter(s) **must** be provided.
- b) A cooling system **must** be provided.
- c) A combustion air cleaning system **must** be provided, with an air cleaner restriction indicator visible to the operator.
- d) A governor **must** be provided.
- e) A full flow replaceable oil filter **must** be provided.
- f) An engine shutdown or de-rate system **must** be provided, including a visual warning indicator visible from the operator position.

3.6.2 Cold Weather Starting Aids

- a) A low temperature engine starting aid **must** be provided, including glow plug(s) or intake air preheat system.
- b) A thermostatically controlled water separator/fuel filter **must** be provided to preheat diesel fuel prior to starting.
- c) A thermostatically controlled in-line fuel heater **must** be provided.
- d) A 110-volt engine heater(s) **must** be provided.
- e) The battery **must** be housed in an insulated battery box, blanket or heated enclosure.
- f) All cold weather aids **must** be powered through dedicated shoreline receptacle(s).
- g) If multiple shoreline receptacles are provided, they **must** be grouped together.

3.6.3 **Exhaust System**

- a) The vehicle **must** be equipped with an exhaust system shielded to prevent personnel contacting a heated surface.
- b) The exhaust system **must** prevent entry of rain.
- c) If a Selective Catalytic Reduction (SCR) System is used, there **must** be manual deactivation and activation controls for the automatic regeneration of the Diesel Particulate Filter (DPF).

3.6.4 **Fuel Tank(s)**

- a) The fuel tank(s) **must** have a fuel capacity that will provide a minimum of six (6) continuous hours of operation.
- b) If more than one fuel tank is used, separate fuel gauges **must** be provided.

3.7 **Drivetrain**

- a) The vehicle **must** be all-wheel drive.
- b) The drivetrain **must** include a “Park” or “Neutral” starting interlock.
- c) The drivetrain **must** include limited slip, automatic or operator controlled locking differential(s) on the drive axle(s) with an engagement indicator.

3.8 **Transmission**

- a) The vehicle **must** be equipped with fully automatic or hydrostatic continuous drive transmission.
- b) The transmission **must** have an oil heater, if required to meet the operating conditions specified in Paragraph 3.2.1.
- c) The transmission **must** have an oil cooler, if required.
- d) The transmission **must** have a replaceable oil filter.
- e) The transmission shift control **must** clearly indicate the position of the shift column under all lighting conditions.
- f) A transmission oil dipstick **must** be provided.
- g) An audible back-up alarm **must** be installed to alert personnel that the vehicle transmission is in reverse.

3.9 **Braking System**

- a) The vehicle **must** be equipped with a power assisted braking system.
- b) The braking system **must** include an anti-lock (ABS) brake system.

3.9.1 Parking Brake

- a) The vehicle **must** be equipped with a parking brake that can hold the unloaded vehicle on a 10 percent gradient.
- b) The parking brake control **must** be positioned so it will not interfere with the operator or snag their clothing when entering or exiting the vehicle.

3.10 Suspension System

- a) The vehicle **must** be equipped with multi-leaf type springs with bumper pads or an air suspension system.
- b) The suspension system **must** be provided with double acting shock absorbers on all axles.
- c) If an air system is provided, it **must** include immediate response automatic ride height control.
- d) If an air system is provided, a heated expello valve **must** be provided.

3.11 Steering

- a) The vehicle **must** be provided with a front-wheel power steering system.
- b) The steering system **must** be provided with a telescopic/tilt steering column.

3.12 Wheels, Rims and Tires

- a) Tires and rims **must** be selected in accordance with the Tire and Rim Association Handbook.
- b) Tires **must** have a tread pattern for use in the operating conditions described in Paragraph 3.2.
- c) The wheels, tires and rims **must** include valve extensions for inner tires, if used, to allow for easy access.
- d) For each tire size provided, one full size spare tire assembly **must** be delivered with each vehicle.

3.13 Cab

- a) The vehicle **must** be equipped with a weatherproof cab.
- b) The cab **must** be forward mounted and provide the operator with 360° visibility including the snow blower attachments and the surrounding area.
- c) A fully adjustable operator's seat **must** be provided, centred in the cab, with independent air suspension and arm rests.
- d) At a minimum, a foldable passenger seat with lap belt **must** be provided.
- e) The operator and passenger seats **must** have dark upholstery.

- f) The operator's seat **must** have include a retractable **(3-point)** seat belt.
- g) At a minimum, a main point of cab entry/exit and one alternate emergency escape **must** be provided.
- h) A ventilation/heater and defrosting system **must** be provided, with a multi-speed fan, applicable for the operating conditions as specified in Paragraph 3.2.1.
- i) All windows **must** have glass tinting to reduce solar heating effects..
- j) A powered windshield washer system **must** be provided with multi-speed wipers, where the wiper blades **do not** travel from a vertical center windshield position to a horizontal position near the roof line.
- k) The cab floor or floor mats **must** be weatherproof.
- l) Two rotating interior sun visors **must** be installed.
- m) Interior rear-view mirrors **must** be provided.
- n) A back-up camera system **must** be installed in the cab with a screen size of at least 17.7 cm (7 inches) that displays in colour.
- o) An AM/FM stereo radio with an auxiliary port **must** be provided.
- p) Two heavy-duty, powered and heated exterior side mirrors, with convex section, **must** be provided with in-cab controls.
- q) The cab **must** 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, service inspection tag, and accessible to the operator.

3.14 Snow Blower

- a) The self-propelled snow blower **must** be hydrostatically or mechanically driven.
- b) The blower **must** be a two-stage, single ribbon auger type blower, equipped with a truck loading, spot casting chute.
- c) The blower **must** be operated from the operator's station in the cab with all controls within the operator's reach.

3.14.1 Snow Blower Performance

- a) The snow blower **must** have a minimum capacity of 4082.3 metric tons (4500 short tons) per hour at a minimum casting distance of 30.5 metres (100') through a snow density of 600 kg/m³.
- b) The blower **must** have a minimum cutting width of 2.5 m (98") and cutting height of 1.5 m (58").

3.14.2 Snow Blower Engine

- a) The snow blower **must** be powered from an engine separate from the vehicle engine.

- b) The engine **must** operate on ultra-low sulphur diesel fuel to the CAN/CGSB Standard 3.517 and meet the latest emission standards.
- c) Horse power supplied by the engine **must** allow for the full performance of the runway snow blower.
- d) The engine **must** be equipped with a heavy duty industrial air cleaner(s) with safety type elements, for combustion air, to protect the engine and its components.
- e) The air cleaner(s) **must** be equipped with restriction indicators, visible to the operator.
- f) A replaceable air filter(s) **must** be provided.
- g) The engine **must** be equipped with a liquid cooling system.
- h) The engine **must** have a full flow oil filter with a spin-on or replaceable element.
- i) An engine shutdown or de-rate system **must** be provided, including a visual warning indicator visible from the operator position.
- j) The engine **must** be equipped with the same cold weather aids as specified in Paragraph 3.6.2.
- k) The engine **must** be equipped with an exhaust system shielded to prevent personnel contacting a heated surface.
- l) The exhaust system **must** prevent entry of rain or snow.

3.14.3 **Snow Blower Power Drive Train**

- a) The snow blower power train **must** be mechanical or hydrostatic drive.
- b) If the drive is mechanical it **must** have components with a rated torque capacity exceeding the maximum applied torque.
- c) If the drive is hydrostatic, the system **must** be of sufficient capacity to handle the maximum load imposed on the system.

3.14.4 **Snow Blower Head Auger**

- a) The auger ribbon **must** be constructed of abrasion resistant steel.

3.14.5 **Snow Blower Impellor and Chute**

- a) The impeller **must** have replaceable blades.
- b) The impeller housing **must** be constructed of abrasion resistant steel.
- c) The casting chute **must** be capable of truck loading and spot casting.
- d) The chute **must** be hydraulically controlled and rotate a minimum of 270 degrees.
- e) The chute **must** be hydraulically extendable to successfully load a dump truck with a minimum box height of 3.5 m (11.4 ft.) from the ground.

- f) The impeller **must** be capable of flat casting (from the horizontal) on one side to a minimum of 45 degrees on the other side.
- g) The operator **must** be able to instantly change the snow stream direction and elevation during casting.

3.14.6 **Snow Blower Application Equipment**

- a) Separate shear pin protection **must** be provided for the auger and impeller.
- b) Side cutter bars **must** be provided.
- c) Full length, multi-section scraper blade **must** be provided on the front bottom edge of the blower frame.
- d) Carbide skid shoes **must** be provided.
- e) Wheels **must** be provided to support the rear of the blower head, only if required, for axle loading conditions.
- f) If the blower is equipped with wheels, a spare wheel assembly **must** be delivered with each vehicle.

3.15 **Hydraulic System**

- a) The vehicle **must** be equipped with a hydraulic system.
- b) A hydraulic oil cooler **must** be provided, if required.
- c) Hydraulic filter change indicators **must** be provided.
- d) Hydraulic hoses **must** be grouped together and clearly identified.
- e) Clearly marked test ports **must** be provided.
- f) Hydraulic pressure test gauge with applicable fittings and hoses **must** be provided.

3.16 **Automatic Lubrication System**

- a) The vehicle **must** be equipped with a Groenveld auto-lubrication system or equivalent.
- b) The system **must** include a grease reservoir, accessible for level checking and refilling.
- c) The grease reservoir **must** be full on delivery.
- d) A grease level indicator **must** be provided.
- e) A grease distribution pump **must** be provided.
- f) An adjustable timer **must** be installed to control the greasing intervals.
- g) All grease point that are not serviced by the auto-lubrication system **must** be clearly identified.

3.16.1 **Lubricants and Fluids**

- a) All lubricants and fluids provided **must** meet the operating conditions specified in Paragraph 3.2.1.

3.17 **Electrical System**

- a) The vehicle **must** be equipped with a 12-volt or 24-volt electrical system
- b) Wiring **must** be protected by insulating grommets, where passing through metal.
- c) Wire identification (colour coded by function), weatherproof connectors, protective loom and secure fastening **must** be provided.
- d) Heavy-duty, maintenance free batteries **must** be provided and secured in an accessible well-protected location.
- e) A master disconnect switch, accessible from the ground, **must** be provided.
- f) An alternator **must** be provided.

3.18 **Lighting**

- a) The vehicle **must** be equipped with LED lights that include: type signal, marker, tail, stop, clearance, licence plate, and back-up lights.
- b) All exterior lights **must** be LED unless otherwise specified.
- c) Halogen or LED headlights **must** be provided.
- d) LED interior cab light **must** be provided.
- e) In-cab instrument panel lights **must** be dimmable.
- f) The snow blower head **must** be equipped with a minimum of two LED working lights located on the top portion of the blower head frame.
- g) The chute **must** be equipped with a minimum of one LED work light on the top.
- h) The vehicle **must** be equipped with minimum one roof mounted amber LED stroboscopic beacon light, mounted at the highest point, to allow for 360 degree visibility.
- i) The vehicle **must** be equipped with minimum one roof mounted blue LED stroboscopic beacon light, mounted at the highest point, to allow for 360 degree visibility.
- j) Lights **must** be recessed or otherwise protected from damage with all components accessible for servicing.
- k) All controls for the lights **must** be located in the cab.

3.19 **Controls**

- a) Each control **must** be permanently marked to identify the function, in both English and French or international symbols as defined by SAE J1362.

- b) Vehicle controls **must** be grouped together in the cab.
- c) Snow blower controls **must** be grouped together in the cab.
- d) Controls **must** not restrict the operator's field of view.
- e) Control panel lights **must** be provided for adequate lighting for nighttime operations.

3.20 Instruments

- a) Instruments **must** be metric and visible to the seated operator in the cab under all lighting conditions.

3.20.1 Vehicle Instruments

- a) An ammeter, voltmeter or charging indicator **must** be provided.
- b) An engine coolant temperature indicator **must** be provided.
- c) A hydraulic oil temperature and level indicator **must** be provided.
- d) An engine oil pressure indicator **must** be provided.
- e) An hour-meter with numeric display, which accurately records accumulated engine running time up to at least 9,999 hours **must** be provided.
- f) A fuel level indicator **must** be provided.
- g) A speedometer **must** be provided.
- h) An engine tachometer **must** be provided.
- i) Differential lock indicator **must** be provided.

3.20.2 Snow Blower Instruments

- a) Snow blower engine voltmeter or charging indicator **must** be provided.
- b) Snow blower engine coolant temperature indicator **must** be provided.
- c) Snow blower engine oil pressure indicator **must** be provided.
- d) Snow blower engine hour-meter with numeric display, which accurately records accumulated engine running time up to at least 9,999 hours **must** be provided.
- e) Snow blower engine tachometer **must** be provided.
- f) Indicators for all snow blower functions **must** be provided.

3.21 Paint

- a) All metal surfaces **must** be protected.
- b) The prime coating **must** be a high durability, corrosion resistant type, such as an epoxy.

- c) The vehicle colour **must** be Dupont Axalta 750206 E B Penn Dot Yellow or equivalent.
- d) The casting chute colour **must** be non-glare black.
- e) The auger ribbon colour **must** be gloss red.
- f) “DANGER STAND CLEAR” **must** be painted or stencilled on both sides of the snow blower attachment in day-glow red.

3.22 Retroreflective Tape

- a) Retroreflective tape **must** be placed on the vehicle on all extremities of the vehicle cab and snow blower attachment and along the vehicle body.

3.23 Corrosion Protection

- a) The vehicle **must** be designed and manufactured to prevent galvanic corrosion.
- b) The materials used in the vehicle manufacturing **must** resist damage or deterioration as a result of cleaning with hot or cold water, steam, or detergents.
- c) A commercial rust prevention coating **must** be applied to the vehicle, such as Krown Rust Control or Rust Check or equivalent.
- d) A decal and warranty papers for the rust prevention coating **must** accompany the vehicle.

3.24 Warning, Markings and Instruction Plates

- a) All identification, instructional, and warning labels **must** be bilingual or International symbols defined in SAE J1362.
- b) All identification, instructional, and warning labels **must** within view of the operator.
- c) All gauges and controls and **must** be permanently labelled.

3.24.1 Vehicle identification

- a) The vehicle identification information must be permanently affixed in a conspicuous and protected location.
- b) Identification information must include the cab and chassis manufacturer's name, model number, serial number, and model year.
- c) Identification information must include the body manufacturer's model and serial number.
- d) Identification information must include the equipment manufacturer's model and serial number.
- e) Identification information must include the GVWR and GAWR ratings.

4 INTEGRATED LOGISTIC SUPPORT

4.1 Vehicle Manuals– All manuals required for the description, operation, maintenance and repair of the complete equipment, including sub-systems, **must** be provided.

4.1.1 Operator's Manuals

- a) The operator's manuals **must** be bilingual (English/French).
- b) The operator's manuals **must** include instructions for the safe operation of the vehicle.
- c) The operator's manuals **must** include daily operator maintenance instructions/checks (including lubrication).
- d) The operator's manuals **must** include safety warnings.
- e) The operator's manuals **must** include hand signals (as necessary).

4.1.2 Parts Manual(s)

- a) The parts manual(s) **must** be in English (French translation is desirable).
- b) The parts manual **must** have illustrations showing all components of the vehicle including equipment and accessories from other manufacturers that are supplied to meet the requirements of the contract, with numbers for the itemization of the parts.
- c) The parts manual **must** have a listing for all itemized parts showing the Original Equipment Manufacturers (OEM) part number, the part name and a brief description of the item.
- d) The parts manual **must** cross reference the OEM part number to the correct illustration and item number.
- e) The parts manual **must** have a representation of bilingual warning signs and identification labels delivered on the equipment.

4.1.3 Maintenance Manuals

- a) The maintenance manual **must** be in English (French translation is desirable).
- b) The maintenance manual **must** include a trouble shooting guide, showing the steps and tests required to determine the exact cause of a problem and an explanation of the steps required to correct a problem.
- c) The maintenance manual **must** include a listing of the necessary tolerances, torque levels, fluid volume, and special tools (including item part numbers).
- d) The maintenance manual **must** include information on the order of disassembly and assembly of the systems and components of the vehicle.
- e) The maintenance manual **must** include special tools list as per 4.3.4.

4.1.4 **Manual Delivery to Technical Authority**

- a) Sample manuals **must** be submitted to the Technical Authority (TA) prior to the delivery of the vehicle for each model and or sub-system for approval. Sample manuals will not be returned. TA will provide approval or comments on the manuals within 30 days.
- b) One (1) complete set of approved manuals (Operator's, Maintenance, and Parts) in electronic format **must** be delivered to the Technical Authority.

4.1.5 **Manual Delivery with Vehicle**

- a) One (1) complete set of manuals (Operator's, Maintenance, and Parts) **must** accompany each vehicle.
- b) The manuals **must** be in paper and electronic format.

4.1.6 **Electronic Format**

- a) Approved copies of the electronic format manuals **must** be delivered on CD/DVD-ROM.
- b) CD/DVD-ROM **must not** require installation, password and/or Internet connection to be accessed and be an unlocked PDF in a searchable format.

4.1.7 **Provisional Manuals**

- a) In the event that approved manuals are not available at the time of delivery of the equipment, manuals marked "Provisional" **must** be supplied with the equipment.
- b) The contractor **must** deliver replacement approved manuals to all destinations where Provisional manuals were delivered.

4.1.8 **Manual Supplements**

- a) The contractor **must** supply manual supplements (Operator's, Maintenance and Parts) to support dealer-installed equipment not covered in the Vehicle Manuals.
- b) Manual supplements **must** be delivered in accordance with 4.1.4 and 4.1.5.

4.1.9 **Translation and Reproduction Rights**

- a) The Canadian Government **must** reserve the right to translate and reproduce, for Government use only, all or any part of the publications supplied, including the training packages delivered against the contract agreement.

4.1.10 **Changes to Manuals**

- a) During the period of the contract, changes to equipment, which affect the contents of manuals, **must** be reflected in the revision of the electronic and paper version of the manuals.
- b) Changes to the manuals **must** conform to the same format and presentation requirements as the original manuals.

- c) The revised electronic version of the manual **must** be sent to the Technical Authority by the Contractor.

4.2 Warranty Letter

- d) The warranty letter **must** include additional warranty coverage of sub-systems and a copy of the warranty letter from each sub-system's Original Equipment Manufacturer (OEM).
- e) The warranty letter **must** include warranty period as negotiated in the contract.
- f) The warranty letter **must** include Contractor contact information, name and phone number, for warranty support.

4.2.1 Warranty Letter Delivery

- a) The Contractor **must** provide a bilingual warranty letter to the Technical Authority and with each vehicle. If the Technical Authority requires the letter to be in DND format, then they will provide the Contractor a template for the DND acceptable format of the warranty letter.

4.3 Other ILS Deliverables to Technical Authority

4.3.1 Data Summary

- a) The Contractor **must** provide a bilingual Data Summary for each make/model/configuration of vehicle by completing Technical Authority's template with data and a vehicle picture.

4.3.2 Photographs

- a) The Contractor **must** provide photographs in colour, taken against a plain background, and in digital JPEG format with a minimum 10 megapixel resolution.
- b) One left front three-quarter view of a completed unit **must** be provided.
- c) One right rear three-quarter view of a completed unit **must** be provided.

4.3.3 Dimensioned Drawing

- a) One side and front view level one engineering drawing or sketch showing the dimensions **must** be provided. Brochure sketches are acceptable.

4.3.4 **Special Tools List** - The Contractor **must** provide an itemized list of specific special tools required for the servicing and repair of the vehicle and include:

- a) Item name;
- b) Contractor's part number;
- c) Manufacturer's part number (OEM);
- d) Quantity recommended per delivery location;
- e) Unit price; and

- f) Unit of issue.

4.3.5 **Preventive Maintenance Replacement Parts Kit List (PMRPKL)** - The contractor *must* provide a list detailing the parts that are required to perform preventive maintenance to the system for a period of 12 months, and include:

- a) Item name;
- b) Contractor's part number;
- c) Manufacturer's part number (OEM);
- d) Manufacturer's NATO Supply code (NCAGE) or name and address;
- e) NSN (NATO Stock Number) (if known);
- f) Quantity per equipment;
- g) Quantity recommended;
- h) Unit price; and
- i) Unit of issue.

4.3.6 **Recommended Spare Parts List (RSPL)** - The Contractor *must* provide a list detailing the spare parts deemed necessary to maintain the vehicle for a period of 24 months exclusive of any warranty period, and include:

- a) Item name;
- b) Contractor's part number;
- c) Manufacturer's part number (OEM);
- d) Manufacturer's NATO Supply code (NCAGE) or name and address;
- e) NSN (NATO Stock Number) (if known);
- f) Quantity per equipment;
- g) Quantity recommended;
- h) Unit price; and
- i) Unit of issue.

4.3.7 **Supplementary Provisioning Technical Documentation (SPTD)**

- a) The Contractor *must* provide SPTD as per 2.1
- b) The SPDT *must* include each item appearing on the RSPL as defined in 4.3.6

- c) For item identification and cataloguing purposes, the technical data supplied **must** be sufficiently comprehensive to allow DND to classify and fully describe the items within the NATO codification system.

4.4 Safety Recalls and Servicing Data

- a) Safety recalls, and manufacturer's technical service bulletins, or equivalent **must** be provided to the technical authority and the final delivery locations on a continuing basis, throughout the life expectancy of the vehicle or for no less than 10 years.

4.5 Initial Parts Kit

- a) One initial parts kit **must** be delivered with each vehicle.
- b) Each kit **must** include a complete set of filters and filter elements from the Original Equipment Manufacturer (OEM) required in the first 12 months of service.

4.6 Training

4.6.1 Maintenance Training

- a) The Contractor **must** provide a maintenance training course.
- b) The course **must** be given at the delivery destination.
- c) The course **must** be available in both official languages.
- d) The course **must** have a minimum duration of one (1) day to provide training of up to eight (8) maintenance personnel and have the final dates arranged with the Technical Authority.
- e) The course **must** have a syllabus or course outline and schedule available for review seven (7) days prior to the course commencement date.
- f) After completion of the course, the Contractor **must** have a "PROOF OF MAINTENANCE TRAINING" certificate signed by a Canada Representative for the destination. The Technical Authority will supply this document in an electronic format.

4.6.2 Maintenance Training Curriculum

- a) Operator's training detailed in Paragraph 4.6.4 below **must** be included in the curriculum.
- b) Operation and maintenance safety precautions **must** be included in the curriculum.
- c) Preventive maintenance including servicing schedules (10 % of classroom time) **must** be included in the curriculum.
- d) Trouble shooting, testing, and adjustments (70 % of classroom time) **must** be included in the curriculum.
- e) Special tools and test equipment **must** be included in the curriculum.

4.6.3 Operator Training

- a) The Contractor **must** provide an operator training course.

- b) The course **must** be given at the delivery destination.
- c) The course **must** be available in both official languages.
- d) The course **must** have minimum duration of one (1) day to provide training for up to eight (8) operators and have the final dates arranged with the Technical Authority.
- e) The course **must** have a syllabus or course outline and schedule available for review seven (7) days prior to the course commencement date.
- f) After completion of the course the Contractor **must** 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.

4.6.4 **Operator Training Curriculum**

- a) Safety precautions to be observed while operating and servicing the vehicle **must** be included in the curriculum.
- b) Vehicle operating characteristics **must** be included in the curriculum.
- c) Vehicle operating procedures **must** be included in the curriculum.
- d) Pre-operating and pre-shutdown procedures **must** be included in the curriculum.
- e) Daily/weekly operator servicing procedures **must** be included in the curriculum.

4.6.5 **Training Materials**

- a) Training materials **must** be provided to each attendee, in French for locations in Quebec.
- b) Training materials **must** include a list of topics to be covered;
- c) Training materials **must** include an approximate timetable showing when topics are scheduled to be covered and how much time is scheduled for each topic;
- d) Training materials **must** list any reference material; and
- e) Training materials **must** make available any reference material used.



ANNEX C

PURCHASE DESCRIPTION

FOR

Multi-Tasking Equipment (MTE) with Runway Snow Plow and Towed Cradle Broom Sweeper

ECC XXXXXX and XXXXXX



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 5 – DAVPS 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

- a) This Purchase Description describes the requirements for multi-tasking equipment for airfield snow removal equipped with a 6.4 m (21 ft) runway plow and 5.4 m (17.7 ft) towed cradle broom sweeper intended to clear runways at Royal Canadian Air Force Wings across Canada.
- b) Canada will procure 24 runway plows and quantity 33 towed cradle broom sweepers. These units will operate together as an integrated multi-tasking equipment unit or independently.

1.2 Instructions

- a) Requirements, which are identified by the word “**must**”, are 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 “**must**” or “will” are not used, the information supplied is for guidance only.
- d) In this document “provided” **must** mean “provided and installed”.
- e) Where a technical certification is referred to in this specification, a copy of the certification or an acceptable Proof of Compliance **must** be supplied for the vehicle when requested by the Technical Authority.
- f) Metric measurements are used to define the requirement. Other measurements are for reference only and may not be exact conversions.
- g) Nominal dimensions reflect a method by which materials or products are generally identified, but which differ from the actual measured dimensions.

1.3 Definitions

- a) “**Technical Authority**” - The government official responsible for technical content of this requirement.
- b) “**Equivalent**” - Substitutes and alternatives that are equivalent in product, performance or a standard will be considered for acceptance by the Technical Authority where Proof of Compliance for equivalency for the respective requirement is provided for evaluation.
- c) “**Vehicle**” – The entire vehicle is the multi-tasking equipment equipped with the plow integrated with the sweeper including all systems and sub-systems, in a complete manufactured state in accordance with the requirements in this Purchase Description.
- d) “**Plow**” - The entire self-contained plow including all related systems and sub-systems, in a complete manufactured state in accordance with the requirements in this Purchase Description.

- e) **“Sweeper”** - The entire self-contained sweeper including all related systems and sub-systems, in a complete manufactured state in accordance with the requirements in this Purchase Description.
- f) **“5th percentile adult female”** – As defined in the *Motor Vehicle Safety Regulations (C.R.C., c. 1038)* a person having as physical characteristics a mass of 46.3 kg, height of 1499 mm, erect sitting height of 785 mm, normal sitting height of 752 mm, hip sitting breadth of 325 mm, hip sitting circumference of 925 mm, waist sitting circumference of 599 mm, chest depth of 191 mm, bust circumference of 775 mm, chest upper circumference of 757 mm, chest lower circumference of 676 mm, knee height of 455 mm, popliteal height of 356 mm, elbow rest height of 180 mm, thigh clearance height of 104 mm, buttock-to-knee length of 518 mm, buttock-to-poples length of 432 mm, elbow-to-elbow breadth of 312 mm and seat breadth of 312 mm.
- g) **“95th percentile adult male”** – As defined in the *Motor Vehicle Safety Regulations (C.R.C., c. 1038)* a person having as physical characteristics a mass of 97.5 kg, height of 1849 mm, erect sitting height of 965 mm, normal sitting height of 930 mm, hip sitting breadth of 419 mm, hip sitting circumference of 1199 mm, waist sitting circumference of 1080 mm, chest depth of 267 mm, chest circumference of 1130 mm, knee height of 594 mm, popliteal height of 490 mm, elbow rest height of 295 mm, thigh clearance height of 175 mm, buttock-to-knee length of 640 mm, buttock-to-poples length of 549 mm, elbow-to-elbow breadth of 506 mm and seat breadth of 404 mm.
- h) **“Gross Axle Weight Rating (GAWR)”** - The value specified by the vehicle manufacturer as the load-carrying capacity of a single axle system, as measured at the tire-ground interfaces.
- i) **“Gross Vehicle Weight Rating (GVWR)”** - The value specified by the vehicle manufacturer as the loaded weight of a single vehicle.

2. APPLICABLE DOCUMENTS

2.1 Government Furnished Documents

D-01-100-214/SF-000

Specification for PREPARATION OF PROVISIONING DOCUMENTATION FOR CANADIAN FORCES EQUIPMENT

2.2 Applicable Documents

- a) The following documents form part of this Purchase Description. The dates of issue are those in effect on the date of release of the RFP. Canada will not be supplying these documents. Sources are as shown:

Canadian Occupational Health and Safety Regulations (COHSR), 2015

<http://laws.justice.gc.ca/eng/regulations/sor-86-304/index.html>

SAE Handbook

SAE ARP5548 Multi-Tasking Equipment (MTE) For Airfield Snow Removal

Society of Automotive Engineers Inc.

400 Commonwealth Dr,

Warrendale, PA, 15096

<http://www.sae.org>

Automotive (On-road) Diesel Fuel

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

Yearbook

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

Hazardous Products Act

Government of Canada
<http://laws-lois.justice.gc.ca/eng/acts/H-3/>

Advisory Circulars 300 Series – Aerodromes and Airports (for additional information and guidance only)

Transport Canada
Government of Canada
330 Sparks Street
Ottawa, ON, K1A 0N5
<https://www.tc.gc.ca/>

3. REQUIREMENTS

3.1 Standard Design

- a) **Latest Model** - The vehicle design **must** be the manufacturer's latest model.
- b) **Industry Acceptability** - The vehicle design **must** have demonstrated industry acceptability by having been manufactured and sold commercially for at least 2 year, or be manufactured by a company that has at least 5 years' experience in design and manufacturing of a comparable type of equipment of equivalent or greater complexity.
- c) **Engineering Certification** - Original manufacturers engineering certification **must** be provided upon request for major drive train components, and major equipment systems and assemblies, to demonstrate that assemblies are used within their design limitations.
- d) **Regulations** – The vehicle **must** 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. International equivalent laws, regulations, and industrial standards will be accepted only if certified for equivalency by a professional engineer.
- e) **Published Ratings** - The vehicle **must** have system and component capacities equivalent to published ratings (i.e. product or component brochures).

- f) **Standard Components** - The vehicle **must** include all standard components, equipment and accessories for the model offered, although they may not be specifically described in this Purchase Description.
- g) **Spare Parts** - The manufacturer **must** ensure that components and parts used are readily available for a minimum period of fifteen (15) years from the date of manufacture.

3.2 Operating Conditions

3.2.1 Weather

- a) The vehicle **must** operate under the extremes of weather conditions found in Canada in temperatures ranging from -46 to 39° C (-50.8 F to 102° F) and cold starting from -40° C (-40 F) with external aids as specified in Paragraph 3.6.1.2

3.2.2 Terrain

- a) The vehicle **must** be operable on concrete and asphalt surfaces that include year round operations on rain, snow, hard packed snow and ice with up to 2.0% (percent) slope in all weather conditions.

3.3 Safety Standards

3.3.1 Noise Level

- a) The vehicle noise level **must** meet the requirements of legislation relative to Canadian Occupational Health and Safety Regulations (COHSR).

3.3.2 Human Factors Engineering

- a) The vehicle, all systems, and components **must** comply with the relevant sections of the COHSR.
- b) The vehicle **must** be manufactured/assembled for safety and ease of use by CAF users with anthropometric characteristic measurements ranging from 95th percentile male to 5th percentile female.
- c) The vehicle **must** have entry and exit points equipped with handles and steps sized and positioned to accommodate CAF users with anthropometric characteristic measurements ranging from 95th percentile male to 5th percentile female.
- d) The vehicle **must** be equipped, with warning and instruction plates, non-slip walking surfaces and heat shields, for operator safety.

3.3.3 Design Standards

- a) The vehicle **must** be designed in accordance with the guidelines set out in SAE ARP5548 unless otherwise specified in this Purchase Description.

3.4 Vehicle Performance, Ratings and Dimensions

3.4.1 Performance

- a) The plow and sweeper **must** operate independently and as an integrated unit forming the vehicle.
- b) The vehicle, at GVWR, **must** sustain a minimum transport speed of 75 km/h (46.6 MPH) on a level paved road.
- c) The vehicle **must** operate at speeds of up to 40 km/h (24.8 MPH) through a minimum snow density of 400 kg/m³ without broom bounce or wheel shimmy.
- d) The vehicle **must** remove at least 80% of snow slush to a depth of 13 mm (0.5 inch).

3.4.2 Weight Ratings

- a) The GVWR of the vehicle **must** not be less than the sum of the unloaded vehicle mass, the cargo carrying capacity, and the product obtained by multiplying the designated seating capacity by 68kg as defined in the *Motor Vehicle Safety Regulations (C.R.C., c. 1038)*.
- b) Each GAWR **must** be equal to or less than the load rating of the weakest component in the axle system, i.e., axle housing, suspension, wheels, or tires.
- c) The total load on each axle of the vehicle **must** not exceed the GAWR for that axle.
- d) Axle loads **must** comply with all the provincial weight restrictions across Canada.

3.4.3 Dimensions

- a) The vehicle **must** have dimensions for safe transport across Canada.
- b) The maximum overall **height** of the vehicle **must** be 4.2 metres (13.7 feet).
- c) The maximum overall **width** of the vehicle with the reversible snow plow set at 35 degrees **must** be 4.5 metres (14.7 feet).
- d) The vehicle minimum ground clearance **must** be 200 mm (7.8 inches).

3.5 Frame

- a) The vehicle frames **must** be of heavy duty construction, purpose-built, manufactured for use in all conditions specified in Paragraphs 3.2, 3.3 and 3.4.
- b) The plow **must** be equipped with a Holland Fifth Wheel Hitch, XA-351-A-L-P or equivalent, to connect to the sweeper king pin.
- c) A king pin connection compatible with the plow fifth wheel hitch specified in Paragraph 3.5 b) **must** be installed on the sweeper.
- d) Two safety chains with hooks **must** be provided on the sweeper.

3.6 Plow Requirements

3.6.1 Plow Engine

- a) The engine **must** operate on ultra-low sulphur diesel fuel to the CAN/CGSB Standard 3.517 and conform to the latest emission standards.

3.6.1.1 Engine Components

- a) A combustion air cleaning system **must** be provided, with an air cleaner restriction indicator visible to the operator.
- b) A replaceable air filter(s) **must** be provided.
- c) A cooling system **must** be provided.
- d) A governor **must** be provided.
- e) A full flow replaceable oil filter(s) **must** be provided.
- f) An engine shutdown or de-rate system **must** be provided, including a visual warning indicator visible from the operator position.

3.6.1.2 Cold Weather Starting Aids

- a) Low temperature engine starting aids **must** be provided, including glow plug(s) or intake air preheat system to meet the operating conditions in Paragraph 3.2.1.
- b) A thermostatically controlled water separator/fuel filter **must** be provided to preheat diesel fuel prior to starting.
- c) A thermostatically controlled in-line fuel heater **must** be provided.
- d) A 110-volt battery heater **must** be provided.
- e) Batteries **must** be housed in an insulated battery box, blanket or heated enclosure.
- f) All cold weather aids **must** be connected with a cover-protected, external electrical power plug, powered through dedicated shoreline receptacles.
- g) The cold weather aid receptacles **must** be grouped together.

3.6.1.3 Exhaust System

- a) The exhaust system **must** be shielded to prevent personnel contacting a heated surface.
- b) The exhaust system **must** prevent entry of rain.
- c) If a Selective Catalytic Reduction (SCR) System is used, there **must** be manual deactivation and activation controls for the automatic regeneration of the Diesel Particulate Filter (DPF).

3.6.1.4 **Fuel Tank(s)**

- a) The fuel tank(s) **must** have a fuel capacity that will provide six (6) continuous hours of operation.

3.6.2 **Plow Drivetrain**

- a) The plow **must** be 4x4 drive.
- b) The drivetrain **must** include a "Park" or "Neutral" starting interlock.
- c) The drivetrain **must** include limited slip or driver controlled locking differential(s) on the drive axle(s).

3.6.3 **Plow Transmission**

- a) The plow **must** be equipped with mechanical, fully automatic or hydrostatic continuous drive transmission.
- b) The transmission **must** have an oil heater, if required to meet the operating conditions specified in Paragraph 3.2.
- c) The transmission **must** have an oil cooler, if required.
- d) The transmission **must** have a replaceable oil filter.
- e) The transmission shift control **must** clearly indicate the position of the shift column under all lighting conditions.
- f) A transmission oil dipstick **must** be provided.

3.6.4 **Plow Braking System**

- a) The braking system **must** be manufactured for the conditions specified in Paragraphs 3.2 and 3.4.
- b) The plow **must** be equipped with a power assisted air braking system.
- c) Drum brakes **must** not be provided.
- d) The braking system **must** include an anti-lock (ABS) brake system.
- e) The braking system **must** include a wet tank reservoir.
- f) The braking system **must** include an automatic air dryer.
- g) The braking system **must** include air couplers (glad hands), service and emergency, in a protected location at the rear of the plow.
- h) The braking system **must** be S-cam type air brakes with automatic slack adjusters on all wheels.

- i) The braking system **must** include heated automatic moisture expelling valve(s) on all tanks and air dryer.

3.6.4.1 **Parking Brake**

- a) The plow **must** be equipped with a parking brake that can hold the vehicle on a 10 percent gradient.
- b) The parking brake control **must** be positioned so it will not interfere with the operator or snag their clothing when entering or exiting the vehicle.

3.6.5 **Plow Suspension System**

- a) The plow **must** be equipped with multi-leaf type springs with bumper pads or an air suspension system.
- b) The suspension system **must** be provided with double acting shock absorbers on all axles.
- c) If an air system is provided, it **must** include immediate response automatic ride height control.
- d) If an air system is provided, a heated expello valve **must** be provided.

3.6.6 **Plow Steering**

- a) The vehicle **must** be provided with a power steering system.
- b) The steering system **must** be provided with a telescopic/tilt steering column.

3.6.7 **Plow Wheels, Rims and Tires**

- a) Tires and rims **must** be selected in accordance with the Tire and Rim Association Handbook.
- b) Tires **must** have a tread pattern for use in the operating conditions described in Paragraph 3.2.
- c) The wheels, tires and rims **must** include valve extensions for inner tires, if used, to allow for easy access.
- d) For each tire size provided, one full size spare tire assembly **must** be delivered with each vehicle.

3.6.8 **Plow Cab**

- a) The vehicle **must** be equipped with a weatherproof cab.
- b) The cab **must** be forward mounted and provide the operator with 360° visibility including the reversible plow attachment and the surrounding area.
- c) A fully adjustable operator's seat **must** be provided, centred in the cab, with independent, suspension and arm rests.
- d) A passenger seat with lap belt **must** be provided.

- e) The operator and passenger seats **must** have dark upholstery.
- f) The operator's seat **must** have include a retractable **(3-point)** seat belt.
- g) At a minimum, a main point of cab entry/exit and one alternate emergency escape **must** be provided.
- h) A ventilation/heater and defrosting system **must** be provided, with a multi-speed fan, applicable for the operating conditions as specified in Paragraph 3.2.1.
- i) An air conditioning system **must** be provided equipped with all components and controls required for regulation of the cab interior temperature.
- j) All windows **must** have glass tinting to reduce solar heating effects.
- k) A powered windshield washer system **must** be provided with intermittent, multi-speed wipers, where the wiper blades **do not** travel from a vertical center windshield position to a horizontal position near the roof line.
- l) The cab floor or floor mats **must** be weatherproof.
- m) A document holder(s) for the operator manuals **must** be provided.
- n) Two rotating interior sun visors **must** be installed.
- o) Interior rear-view mirrors **must** be provided.
- p) A back-up camera system **must** be installed in the cab with a screen size of at least 17.7 cm (7 inches) that displays in colour.
- q) An AM/FM stereo radio with an auxiliary port **must** be provided.
- r) Two heavy-duty, powered and heated exterior side mirrors, with convex section, **must** be provided with in-cab controls.
- s) The cab **must** be equipped with a 4.5 kg (10 lb) ULC approved and rechargeable dry chemical fire extinguisher, type ABC 10G, equipped with a pressure gauge, service inspection tag, and accessible to the operator.

3.6.9 **Reversible Snow Plow**

- a) A 6.4 metre (21-foot) removable, reversible snow plow **must** be provided.
- b) The snow plow **must** be hydraulically operated.
- c) The snow plow **must** be designed to meet the performance requirements in Paragraph 3.4.1.
- d) The snow plow **must** have a minimum thickness of moldboard material - 9 mm (3/8 inch).
- e) The snow plow **must** be equipped with telescoping type hydraulic cylinders enabling the plow to be angled either left, right or straight ahead.

- f) The snow plow maximum angle to the left or right **must** be at least 35 degrees.
- g) The snow plow **must** be power reversible with straight blade with polymer moldboard.
- h) The snow plow **must** have a continuous curve poly material type moldboard assembly that includes an upper horizontal support, a lower horizontal support and vertical ribs.
- i) The snow plow moldboard attack angle **must** be adjustable from 65° to 85°.
- j) The snow plow **must** be fitted with a replaceable one piece spray guard.
- k) The snow plow cutting edge **must** be reinforced with structural steel.
- l) Steel blades, steel shoes or steel casters **must not** be used as supporting surfaces for plow frames.
- m) The snow plow **must** be equipped with two height adjustable skid shoe assemblies to compensate for the wear on the cutting edge of the plow.
- n) The snow plow **must** be equipped with abrasion resistant steel curb (scuff) shoes mounted at each extremity of the blade.
- o) An adjustable pneumatic dual caster wheel assembly **must** be supplied.
- p) The caster wheel assembly **must** be of the 360 degree swivel type.
- q) Wheels and tires **must** be four (4) in number with two (2) on each side riding in tandem.
- r) Vertical adjustment of the snow plow **must** be accomplished through two (2) caster barrel adjustments.
- s) Each caster **must** be equipped with a spring loaded adjustable brake dampener to minimize wheel wobble.
- t) The oscillation system **must** have adjustable spring arrangements to adjust the oscillation tension.

3.6.10 Plow Hitch

- a) A quick hitch system **must** be provided, that will permit the removal or installation of the snow plow assembly from the cab by one (1) person in not more than five (5) minutes.
- b) The lifting cylinder arrangement **must** incorporate a mechanical lock bracket used to take the weight off of the hydraulic cylinder during transport.

3.6.11 Plow Accessories

- a) Front licence plate holder **must** be provided.
- b) Rear licence plate holder with LED light **must** be provided.

- c) A towing hook(s) **must** be provided at the front and rear of the plow.
- d) Mud flaps **must** be provided.
- e) The plow **must** be equipped with a removable counterweight(s) to allow for dedicated plow operation when the sweeper is not being towed.

3.6.12 **Plow Hydraulic System**

- a) The plow **must** be equipped with a hydraulic system that meets the requirements in Paragraph 3.8.

3.6.13 **Plow Instruments**

- a) Instruments **must** be metric and visible to the seated operator in all lighting conditions.
- b) An ammeter, voltmeter or charging indicator **must** be provided.
- c) An engine coolant temperature indicator **must** be provided.
- d) A hydraulic oil temperature and level indicator **must** be provided.
- e) An engine oil pressure indicator **must** be provided.
- f) An hour-meter with numeric display, which accurately records accumulated engine running time up to at least 9,999 hours **must** be provided.
- g) A fuel level indicator **must** be provided.
- h) A speedometer **must** be provided.
- i) An engine tachometer **must** be provided.
- j) Differential lock indicator **must** be provided.

3.7 **Sweeper Requirements**

- a) The sweeper **must** be a towed runway sweeper designed to meet the performance requirements in Paragraph 3.4.1.

3.7.1 **Broom**

- a) A hydraulically driven runway broom with a minimum length of 5.4 m (17.7 ft) **must** be installed on the sweeper.
- b) The broom diameter **must** be 1.16 m (46 inches).
- c) The broom **must** be a cradling or in-line design for easy transport and storage.
- d) The broom **must** be equipped with single-touch automatic cradling and un-cradling.

- e) The broom **must** have a variable angle of travel of at least 35 degrees in either direction from the straight ahead position.
- f) The broom **must** have a swept path width of at least 4.4 m (14.5 ft) measured with the broom at 35 degrees from the straight ahead position.
- g) The broom **must** have a ground clearance of at least 100 mm (3.93 inches) with new brushes in the raised position.
- h) A remote operated broom elevation mechanism for raising the broom during transport **must** be provided.
- i) The broom **must** have a self-levelling frame, perpendicular and parallel to the direction of travel.
- j) The broom **must** have an active weight transfer system to ensure proper broom pattern.
- k) The broom **must** have automatic pattern adjustment.
- l) A controlled broom steering system **must** be provided which includes drift control as well centring and disengaging the rear axle steering system.
- m) The broom **must** be equipped with a minimum of two caster wheels, rotating and swivelling on rolling element bearings or metallic bushings with anti-shimmy dampers and easily accessible grease fittings.
- n) The broom **must** be equipped with a spring-loaded, adjustable, friction brake to eliminate castor wheel shimmy at all speeds.
- o) The broom **must** be provided with a snow shedding hood equipped with an automatic shaker for clearing snow build up.
- p) The broom **must** be equipped with an adjustable, bolt-on stripper plate.
- q) The vehicle **must** be provided with a full set of flat wire brushes and spacers installed.

3.7.2 **Air Blast**

- a) The sweeper **must** be provided with a blower with an outlet flow rate of at least 622.9 cu. m/min (22,000 CFM).
- b) The blower **must** have outlets that automatically adjust to the height of the broom.
- c) The blower outlets **must** retract to within the sweeper envelope during transport.
- d) The outlets **must** be adjustable to clean runway lights.
- e) The blower **must** be operable independently of the broom.

3.7.3 Auxiliary Power Pack

- a) The sweeper **must** be equipped with an auxiliary power pack to allow it to operate independently of the plow.
- b) The power pack **must** be securely mounted on the sweeper.
- c) The power pack **must** be in a weatherproof enclosure with maintenance access.

3.7.3.1 Auxiliary Engine

- a) The auxiliary power pack **must** be equipped with an engine that operates on ultra-low sulphur diesel fuel to the CAN/CGSB Standard 3.517 and conform to the latest emission standards.
- b) Engine manufacturer's certification **must** be available upon request.
- c) The engine **must** be properly sized to fully operate the sweeper and all related components.
- d) The engine **must** meet the requirements in Paragraph 3.6.1.

3.7.3.2 Auxiliary Hydraulic System

- a) The auxiliary power pack **must** be equipped with a hydraulic system that meets the requirements in Paragraph 3.8.

3.7.3.3 Auxiliary Instrument Panel

- a) The auxiliary power pack **must** be equipped with an illuminated instrument panel.
- b) An ammeter, voltmeter or charging indicator **must** be provided.
- c) An engine coolant temperature indicator **must** be provided.
- d) A hydraulic oil temperature and level indicator **must** be provided.
- e) An engine oil pressure indicator **must** be provided.
- f) An hour-meter with numeric display, which accurately records accumulated engine running time up to at least 9,999 hours **must** be provided.
- g) A fuel level indicator **must** be provided.
- h) An engine tachometer **must** be provided.

3.7.4 Sweeper Drive

- a) The sweeper **must** be equipped with a hydraulic drive system sized to operate the broom and air blast under all operating conditions specified in Paragraph 3.2.

3.7.5 **Sweeper Braking System**

- a) The sweeper **must** be equipped with air-actuated braking system on the main axle.
- b) The braking system **must** include a wet tank reservoir.
- c) The braking system **must** include an automatic air dryer.
- d) The braking system **must** include an anti-lock (ABS) brake system.
- e) The braking system **must** include brake housing dust shields on all wheels.

3.7.6 **Sweeper Chassis and Frame**

- a) The sweeper chassis and frame **must** be of sufficient capacity for the application and designed to support the sweeper in all conditions specified in paragraphs 3.2 and 3.4.
- b) A king pin to mate with the plow **must** be provided.
- c) Flexible air brake hoses with glad hand connectors **must** be provided.
- d) An electrical connector to connect to the plow **must** be provided.
- e) A heavy duty landing gear for stowage **must** be provided.

3.7.7 **Sweeper Accessories**

- a) The sweeper **must** be equipped with a 4.5 kg (10 lb) ULC approved and rechargeable dry chemical fire extinguisher, type ABC 10G, equipped with a pressure gauge, service inspection tag, and accessible to the operator from ground level.
- b) The sweeper **must** have a licence plate holder at the rear with an LED light.

3.8 **Hydraulic Systems**

- a) The plow and sweeper **must** be equipped with hydraulic systems.
- b) Hydraulic oil coolers **must** be provided, if required.
- c) Hydraulic filter change indicators **must** be provided.
- d) Hydraulic hoses **must** be grouped together and clearly identified.
- e) Clearly marked test ports **must** be provided.
- f) Hydraulic pressure test gauge with applicable fittings and hoses **must** be provided.

3.9 Automatic Lubrication System

- a) The plow and sweeper **must** be equipped with a Groenveld auto-lubrication systems or equivalent.
- b) The systems **must** include a grease reservoir, accessible for level checking and refilling.
- c) The grease reservoirs **must** be full on delivery.
- d) A grease level indicators **must** be provided.
- e) A grease distribution pump **must** be provided.
- f) An adjustable timers **must** be installed to control the greasing intervals.
- g) All grease point that are not serviced by the auto-lubrication system **must** be clearly identified.

3.9.1 Lubricants and Fluids

- a) All lubricants and fluids provided **must** meet the operating conditions specified in Paragraph 3.2.1.

3.10 Electrical Systems

- a) The plow and sweeper **must** be equipped with 12-volt electrical systems.
- b) Wiring **must** be protected by insulating grommets, where passing through metal.
- c) Heavy-duty, maintenance free batteries **must** be provided and secured in an accessible well-protected location.
- d) Master disconnect switches, accessible from the ground, **must** be provided.

3.11 Lighting

- a) The vehicle **must** be equipped with LED lights, including: type signal, marker, tail, stop, clearance, licence plate, and back-up lights.
- b) Lights **must** be recessed or otherwise protected from damage with all components accessible for servicing.
- c) The plow and sweeper **must** be equipped with minimum one roof mounted amber LED stroboscopic beacon light, mounted at the highest point, to allow for 360 degree visibility.
- d) The plow **must** be equipped with minimum one roof mounted blue LED stroboscopic beacon light, mounted at the highest point, to allow for 360 degree visibility.
- e) In-cab instrument panel lights **must** be dimmable.
- f) At least two (2) adjustable work lights **must** be provided, mounted at the front of the plow.

- g) At least one (1) adjustable work light **must** be provided, mounted at the fifth wheel on the plow.
- h) At least two (2) adjustable work lights **must** be provided, mounted on the sweeper broom.
- i) At least one (1) adjustable work light **must** be provided in the sweeper auxiliary power pack compartment.

3.12 Controls

- a) Each control **must** be permanently marked to identify the function, in both English and French or international symbols as defined by SAE J1362.
- b) Vehicle controls **must** be grouped together in the cab.
- c) Plow controls **must** be grouped together in the cab
- d) Sweeper controls **must** be grouped together in the cab.
- e) Controls for all lights **must** be provided.
- f) Controls **must** not restrict the operator's field of view.
- g) Control panel lights **must** be provided for adequate lighting for nighttime operations.

3.12.1 Sweeper Remote Control

- a) A remote control box for the sweeper **must** be provided.
- b) The control box **must** have sufficient cable to reach from the sweeper to the cab of the vehicle.
- c) The control box **must** have a weatherproof enclosure.
- d) A suitable mounting bracket or pedestal to secure the remote control **must** be provided in the vehicle cab.
- e) All controls, including lights, required to operate the sweeper **must** be provided.

3.13 Paint

- a) All metal surfaces **must** be protected.
- b) The prime coating **must** be a high durability, corrosion resistant type, such as an epoxy.
- c) The colour **must** be Dupont Axalta 750206 E B Penn Dot Yellow or equivalent.

3.14 Retroreflective Tape

- a) Retroreflective tape **must** be placed on the vehicle on all extremities of the vehicle, the plow cab and body and the sweeper body.

3.15 Corrosion Protection

- a) The vehicle **must** be designed and manufactured to prevent galvanic corrosion.
- b) The materials used in the vehicle manufacturing **must** resist damage or deterioration as a result of cleaning with hot or cold water, steam, or detergents.
- c) A commercial rust prevention coating **must** be applied to the vehicle, such as Krown Rust Control or Rust Check or equivalent.
- d) A decal and warranty papers for the rust prevention coating **must** accompany the vehicle.

3.16 Warning, Markings and Instruction Plates

- a) All identification, instructional, and warning labels **must** be bilingual or International symbols defined in SAE J1362.
- b) All identification, instructional, and warning labels **must** within view of the operator.
- c) All gauges and controls and **must** be permanently labelled.

3.16.1 Vehicle identification

- a) The vehicle identification information **must** be permanently affixed in a conspicuous and protected location.
- b) Plow identification **must** be affixed on the plow.
- c) Sweeper identification **must** be affixed on the sweeper.
- d) Identification information **must** include the cab and chassis manufacturer's name, model number, serial number, and model year.
- e) Identification information **must** include the body manufacturer's model and serial number.
- f) Identification information **must** include the equipment manufacturer's model and serial number.
- g) Identification information **must** include the GVWR and GAWR ratings.

4. INTEGRATED LOGISTIC SUPPORT

4.1 Vehicle Manuals– All manuals required for the description, operation, maintenance and repair of the complete equipment, including sub-systems, **must** be provided.

4.1.1 Operator's Manuals

- a) The operator's manuals **must** be bilingual (English/French).
- b) The operator's manuals **must** include instructions for the safe operation of the vehicle.

- c) The operator's manuals **must** include daily operator maintenance instructions/checks (including lubrication).
- d) The operator's manuals **must** include safety warnings.
- e) The operator's manuals **must** include hand signals (as necessary).

4.1.2 **Parts Manual(s)**

- a) The parts manual(s) **must** be in English (bilingual is desirable).
- b) The parts manual **must** have illustrations showing all components of the vehicle including equipment and accessories from other manufacturers that are supplied to meet the requirements of the contract, with numbers for the itemization of the parts.
- c) The parts manual **must** have a listing for all itemized parts showing the Original Equipment Manufacturers (OEM) part number, the part name and a brief description of the item.
- d) The parts manual **must** cross reference the OEM part number to the correct illustration and item number.
- e) The parts manual **must** have a representation of bilingual warning signs and identification labels delivered on the equipment.

4.1.3 **Maintenance Manuals**

- a) The maintenance manual **must** be English (French translation is desirable).
- b) The maintenance manual **must** include a trouble shooting guide, showing the steps and tests required to determine the exact cause of a problem and an explanation of the steps required to correct a problem.
- c) The maintenance manual **must** include a listing of the necessary tolerances, torque levels, fluid volume, and special tools (including item part numbers).
- d) The maintenance manual **must** include information on the order of disassembly and assembly of the systems and components of the vehicle.
- e) The maintenance manual **must** include special tools list as per 4.3.4.

4.1.4 **Manual Delivery to Technical Authority**

- a) Sample manuals **must** be submitted to the Technical Authority (TA) prior to the delivery of the vehicle/trailer for each model and or sub-system for approval. Sample manuals will not be returned. TA will provide approval or comments on the manuals within 30 days.
- b) One (1) complete set of approved manuals (Operator's, Maintenance, and Parts) in electronic format **must** be delivered to the Technical Authority.

4.1.5 **Manual Delivery with Vehicle**

- a) One (1) complete set of manuals (Operator's, Maintenance, and Parts) **must** accompany each vehicle.
- b) The manuals **must** be in paper and electronic format.

4.1.6 **Electronic Format**

- a) Approved copies of the electronic format manuals **must** be delivered on CD/DVD-ROM.
- b) CD/DVD-ROM **must not** require installation, password and/or Internet connection to be accessed and be an unlocked PDF in a searchable format.

4.1.7 **Provisional Manuals**

- a) In the event that approved manuals are not available at the time of delivery of the equipment, manuals marked "Provisional" **must** be supplied with the equipment.
- b) The contractor **must** deliver replacement approved manuals to all destinations where Provisional manuals were delivered.

4.1.8 **Manual Supplements**

- a) The contractor **must** supply manual supplements (Operator's, Maintenance and Parts) to support dealer-installed equipment not covered in the Vehicle Manuals.
- b) Manual supplements **must** be delivered in accordance with 4.1.4 and 4.1.5.

4.1.9 **Translation and Reproduction Rights**

- a) The Canadian Government **must** reserve the right to translate and reproduce, for Government use only, all or any part of the publications supplied, including the training packages delivered against the contract agreement.

4.1.10 **Changes to Manuals**

- a) During the period of the contract, changes to equipment, which affect the contents of manuals, **must** be reflected in the revision of the electronic and paper version of the manuals.
- b) Changes to the manuals **must** conform to the same format and presentation requirements as the original manuals.
- c) The revised electronic version of the manual **must** be sent to the Technical Authority by the Contractor.

4.2 **Warranty Letter**

- a) The warranty letter **must** include additional warranty coverage of sub-systems and a copy of the warranty letter from each sub-system's Original Equipment Manufacturer (OEM).

- b) The warranty letter **must** include warranty period as negotiated in the contract.
- c) The warranty letter **must** include Contractor contact information, name and phone number, for warranty support.

4.2.1 **Warranty Letter Delivery**

- a) The Contractor **must** provide a bilingual warranty letter to the Technical Authority and with each vehicle. If the Technical Authority requires the letter to be in DND format, then they will provide the Contractor a template for the DND acceptable format of the warranty letter.

4.3 **Other ILS Deliverables to Technical Authority**

4.3.1 **Data Summary**

- a) The Contractor **must** provide a bilingual Data Summary for each make/model/configuration of vehicle by completing Technical Authority's template with data and a vehicle picture.

4.3.2 **Photographs**

- a) The Contractor **must** provide photographs in colour, taken against a plain background, and in digital JPEG format with a minimum 10 megapixel resolution.
- b) One left front three-quarter view of a completed unit **must** be provided.
- c) One right rear three-quarter view of a completed unit **must** be provided.

4.3.3 **Dimensioned Drawing**

- a) One side and front view level one engineering drawing or sketch showing the dimensions **must** be provided. Brochure sketches are acceptable.

4.3.4 **Special Tools List** - The Contractor **must** provide an itemized list of specific special tools required for the servicing and repair of the vehicle and include:

- a) Item name;
- b) Contractor's part number;
- c) Manufacturer's part number (OEM);
- d) Quantity recommended per delivery location;
- e) Unit price; and
- f) Unit of issue.

4.3.5 **Preventive Maintenance Replacement Parts Kit List (PMRPKL)** - The contractor **must** provide a list detailing the parts that are required to perform preventive maintenance to the system for a period of 12 months, and include:

- a) Item name;
- b) Contractor's part number;
- c) Manufacturer's part number (OEM);
- d) Manufacturer's NATO Supply code (NCAGE) or name and address;
- e) NSN (NATO Stock Number) (if known);
- f) Quantity per equipment;
- g) Quantity recommended;
- h) Unit price; and
- i) Unit of issue.

4.3.6 **Recommended Spare Parts List (RSPL)** - The Contractor **must** provide a list detailing the spare parts deemed necessary to maintain the vehicle for a period of 24 months exclusive of any warranty period, and include:

- a) Item name;
- b) Contractor's part number;
- c) Manufacturer's part number (OEM);
- d) Manufacturer's NATO Supply code (NCAGE) or name and address;
- e) NSN (NATO Stock Number) (if known);
- f) Quantity per equipment;
- g) Quantity recommended;
- h) Unit price; and
- i) Unit of issue.

4.3.7 **Supplementary Provisioning Technical Documentation (SPTD)**

- a) The Contractor **must** provide SPTD as per 2.1
- b) The SPDT **must** include each item appearing on the RSPL as defined in 4.3.6

- c) For item identification and cataloguing purposes, the technical data supplied **must** be sufficiently comprehensive to allow DND to classify and fully describe the items within the NATO codification system.

4.4 Safety Recalls and Servicing Data

- a) Safety recalls, and manufacturer's technical service bulletins, or equivalent **must** be provided to the technical authority and the final delivery locations on a continuing basis, throughout the life expectancy of the vehicle or for no less than 10 years.

4.5 Initial Parts Kit

- a) One initial parts kit **must** be delivered with each vehicle.
- b) Each kit **must** include a complete set of filters and filter elements from the Original Equipment Manufacturer (OEM) required in the first 12 months of service.

4.6 Training

4.6.1 Maintenance Training

- a) The Contractor **must** provide a maintenance training course.
- b) The course **must** be given at the delivery destination.
- c) The course **must** be available in both official languages.
- d) The course **must** have a minimum duration of two (2) days to provide training of up to eight (8) maintenance personnel and have the final dates arranged with the Technical Authority.
- e) The course **must** have a syllabus or course outline and schedule available for review seven (7) days prior to the course commencement date.
- f) After completion of the course, the Contractor **must** have a "*PROOF OF MAINTENANCE TRAINING*" certificate signed by a Canada Representative for the destination. The Technical Authority will supply this document in an electronic format.

4.6.2 Maintenance Training Curriculum

- a) Operator's training detailed in Paragraph 4.6.4 below **must** be included in the curriculum.
- b) Operation and maintenance safety precautions **must** be included in the curriculum.
- c) Preventive maintenance including servicing schedules (10 % of classroom time) **must** be included in the curriculum.
- d) Trouble shooting, testing, and adjustments (70 % of classroom time) **must** be included in the curriculum.
- e) Special tools and test equipment **must** be included in the curriculum.

4.6.3 **Operator Training**

- a) The Contractor **must** provide an operator training course.
- b) The course **must** be given at the delivery destination.
- c) The course **must** be available in both official languages.
- d) The course **must** have minimum duration of two (2) days to provide training for up to eight (8) operators and have the final dates arranged with the Technical Authority.
- e) The course **must** have a syllabus or course outline and schedule available for review seven (7) days prior to the course commencement date.
- f) After completion of the course the Contractor **must** 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.

4.6.4 **Operator Training Curriculum**

- a) Safety precautions to be observed while operating and servicing the vehicle **must** be included in the curriculum.
- b) Vehicle operating characteristics **must** be included in the curriculum.
- c) Vehicle operating procedures **must** be included in the curriculum.
- d) Pre-operating and pre-shutdown procedures **must** be included in the curriculum.
- e) Daily/weekly operator servicing procedures **must** be included in the curriculum.
- f) A minimum of two (2) hours practical operating experience, per operator, **must** be provided.

4.6.5 **Training Materials**

- a) Training materials **must** be provided to each attendee, in French for locations in Quebec.
- b) Training materials **must** include a list of topics to be covered;
- c) Training materials **must** include an approximate timetable showing when topics are scheduled to be covered and how much time is scheduled for each topic;
- d) Training materials **must** list any reference material; and
- e) Training materials **must** make available any reference material used.



ANNEX D

PURCHASE DESCRIPTION FOR

Aircraft De-Icer/Anti-Icer 8,000L ECC 168431



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 5 – DAVPS 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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RDIMS # 4730494

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1. SCOPE

1.1 Scope

- a) This Purchase Description covers the requirements of an 8,000L aircraft de-icer/anti-icer vehicle that includes a vehicle-mounted self-propelled, boom type aerial device, equipped with an aircraft de-icing fluid spraying system and a separate aircraft anti-icing fluid spraying system. The vehicle will de-ice/anti-ice aircrafts, including the C17 aircraft, at Royal Canadian Air Force Wings across Canada.
- b) Canada will procure 12 aircraft de-icer/anti-icer vehicles for delivery across Canada.

1.2 Instructions

- c) Requirements, which are identified by the word “**must**”, are mandatory. Deviations will not be permitted.
- d) Requirements identified with a “will” define actions to be performed by Canada and require no action/obligation on the Contractor’s part.
- e) Where “**must**” or “will” are not used, the information supplied is for guidance only.
- f) In this document “provided” **must** mean “provided and installed”.
- g) Where a technical certification is referred to in this specification, a copy of the certification or an acceptable Proof of Compliance **must** be supplied for the vehicle when requested by the Technical Authority.
- h) Metric measurements are used to define the requirement. Other measurements are for reference only and may not be exact conversions.
- i) Nominal dimensions reflect a method by which materials or products are generally identified, but which differ from the actual measured dimensions.

1.3 Definitions

- a) “**Technical Authority**” - The government official responsible for technical content of this requirement.
- b) “**Equivalent**” - Substitutes and alternatives that are equivalent in product, performance or a standard will be considered for acceptance by the Technical Authority where Proof of Compliance for equivalency for the respective requirement is provided for evaluation.
- c) “**Vehicle**” – The entire vehicle including all systems and sub-systems, in a complete manufactured state in accordance with the requirements in this Purchase Description.
- d) “**Road Legal**” – Applies to a self-propelled vehicle designed for or capable of transporting persons, property, material or permanently or temporarily affixed apparatus on a highway.
- e) “**5th percentile adult female**” – As defined in the *Motor Vehicle Safety Regulations (C.R.C., c. 1038)* a person having as physical characteristics a mass of 46.3 kg, height of 1499 mm, erect sitting height of 785 mm, normal sitting height of 752 mm, hip sitting breadth of 325 mm, hip sitting circumference of 925 mm, waist sitting circumference of 599 mm, chest depth of 191 mm, bust circumference of 775 mm, chest upper circumference of 757 mm, chest lower circumference

of 676 mm, knee height of 455 mm, popliteal height of 356 mm, elbow rest height of 180 mm, thigh clearance height of 104 mm, buttock-to-knee length of 518 mm, buttock-to-poples length of 432 mm, elbow-to-elbow breadth of 312 mm and seat breadth of 312 mm.

- f) **“95th percentile adult male”** – As defined in the *Motor Vehicle Safety Regulations (C.R.C., c. 1038)* a person having as physical characteristics a mass of 97.5 kg, height of 1849 mm, erect sitting height of 965 mm, normal sitting height of 930 mm, hip sitting breadth of 419 mm, hip sitting circumference of 1199 mm, waist sitting circumference of 1080 mm, chest depth of 267 mm, chest circumference of 1130 mm, knee height of 594 mm, popliteal height of 490 mm, elbow rest height of 295 mm, thigh clearance height of 175 mm, buttock-to-knee length of 640 mm, buttock-to-poples length of 549 mm, elbow-to-elbow breadth of 506 mm and seat breadth of 404 mm.
- g) **“Gross Axle Weight Rating (GAWR)”** - The value specified by the vehicle manufacturer as the load-carrying capacity of a single axle system, as measured at the tire-ground interfaces.
- h) **“Gross Vehicle Weight Rating (GVWR)”** - The value specified by the vehicle manufacturer as the loaded weight of a single vehicle.

2. APPLICABLE DOCUMENTS

2.1 Government Furnished Documents

D-01-100-214/SF-000

Specification for PREPARATION OF PROVISIONING DOCUMENTATION FOR CANADIAN FORCES EQUIPMENT

2.2 Applicable Documents

- a) The following documents form part of this Purchase Description. The dates of issue are those in effect on the date of release of the RFP. Canada will not be supplying these documents. Sources are as shown:

American National Standards Institute

ANSI /SIA A92.7-1990 (R1998) Airline Ground Support Vehicle-Mounted Vertical Lift Devices
1430 Broadway
New York, NY, 10018
<http://webstore.ansi.org/>

Automotive (On-road) Diesel Fuel

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

Canadian Occupational Health and Safety Regulations (COHSR), 2015

<http://laws.justice.gc.ca/eng/regulations/sor-86-304/index.html>

Hazardous Products Act

Government of Canada
<http://laws-lois.justice.gc.ca/eng/acts/H-3/>

Motor Vehicle Safety Regulations (MVSR)

Government of Canada / Transport Canada

<https://www.tc.gc.ca/eng/acts-regulations/regulations-crc-c1038.htm>

SAE Handbook

SAE ARP 1247 Aircraft Ground Support Equipment General Requirements

SAE ARP 1328 Aircraft Ground Support Equipment Vehicle Stability Analysis

SAE ARP 1971 Aircraft De-Icing Vehicle Self-Propelled

SAE ARP 4806 Aerospace De-icing/Anti-Icing Self-Propelled Vehicle Functional Requirement

SAE ARP 5058 Enclosed Operator's Cabin for Aircraft Ground De-icing Equipment

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>

Advisory Circulars 300 Series – Aerodromes and Airports (for additional information and guidance only)

Transport Canada

Government of Canada

330 Sparks Street

Ottawa, ON, K1A 0N5

<https://www.tc.gc.ca/>

3. REQUIREMENTS

3.1 Standard Design

- a) **Latest Model** - The vehicle design **must** be the manufacturer's latest model.
- b) **Industry Acceptability** - The vehicle design **must** have demonstrated industry acceptability by having been manufactured and sold commercially for at least 2 year, or be manufactured by a company that has at least 5 years' experience in design and manufacturing of a comparable type of equipment of equivalent or greater complexity.
- c) **Engineering Certification** - Original manufacturers engineering certification **must** be provided upon request for major drive train components, and major equipment systems and assemblies, to demonstrate that assemblies are used within their design limitations.
- d) **Regulations** – The vehicle **must** 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. International equivalent laws, regulations, and industrial standards will be accepted only if certified for equivalency by a professional engineer.
- e) **Published Ratings** - The vehicle **must** have system and component capacities equivalent to published ratings (i.e. product or component brochures).
- f) **Standard Components** - The vehicle **must** include all standard components, equipment and accessories for the model offered, although they may not be specifically described in this Purchase Description.

- g) **Spare Parts** - The manufacturer **must** ensure that components and parts used are readily available for a minimum period of fifteen (15) years from the date of manufacture.

3.2 Operating Conditions

3.2.1 Weather

- a) The vehicle **must** operate under the extremes of weather conditions found in Canada in temperatures ranging from -46 to 39° C (-50.8 to 102° F) and cold starting from -40° C (-40 °F) with external aids as specified in Paragraph 3.7.2.

3.2.2 Terrain

- a) The vehicle **must** be operable on concrete and asphalt surfaces that include year round operations on rain, snow, hard packed snow and ice with up to 2.0% (percent) slope in all weather conditions.

3.3 Safety Standards

3.3.1 Vehicle Safety Regulations

- a) If a truck chassis is provided, the vehicle **must** comply with the Motor Vehicle Safety Regulations (MVSR).
- b) If a truck chassis is provided, the completed vehicle **must** have Safety Compliance Certification Label with a National Safety Mark (NSM), as a seal of compliance **or** be accompanied by a Vehicle Import Form containing proof of Inspection by the Registrar of Imported Vehicles.
- c) The vehicle **must** be designed and built in accordance with the latest version of ANSI /SIA A92.7, SAE ARP 1247, SAE ARP 1971, SAE ARP 1328, SAE ARP 4806 and SAE ARP 5058.

3.3.2 Noise Level

- a) The vehicle noise level must meet the requirements of legislation relative to Canadian Occupational Health and Safety Regulations (COHSR).

3.3.3 Human Factors Engineering

- a) The vehicle, all systems, and components **must** comply with the relevant sections of the COHSR.
- b) The vehicle **must** be manufactured/assembled for safety and ease of use by CAF users with anthropometric characteristic measurements ranging from 95th percentile male to 5th percentile female.
- c) The vehicle **must** have entry and exit points equipped with handles and steps sized and positioned to accommodate CAF users with anthropometric characteristic measurements ranging from 95th percentile male to 5th percentile female.
- d) The vehicle **must** be equipped, with warning and instruction plates, non-slip walking surfaces and heat shields, for operator safety.

3.4 Vehicle Performance, Ratings and Dimensions

3.4.1 Performance

- a) The vehicle **must** sustain a speed of at least 40 km/h (24.9 mph) fully loaded.
- b) The vehicle **must** be apply de-icing and anti-icing fluid to all exterior surfaces of the C-17 Globemaster and other similar wide body jets and military aircrafts.
- c) The vehicle **must** conduct all de-icing and anti-icing operations at minimum sustained speed of 6 km/h (3.7 mph) with fluid and fuel tanks at both minimum and maximum operating levels and the boomed unstowed.
- d) The vehicle **must** be designed for single operator use.
- e) If a truck chassis is provided, operation **must** be selectable between single and dual operator.

3.4.2 Weight Ratings

- a) The GVWR of the vehicle **must** not be less than the sum of the unloaded vehicle mass, the cargo carrying capacity, and the product obtained by multiplying the designated seating capacity by 68kg and as defined in the *Motor Vehicle Safety Regulations (C.R.C., c. 1038)*.
- b) Each GAWR **must** be equal to or less than the load rating of the weakest component in the axle system, i.e., axle housing, suspension, wheels, or tires.
- c) The total load on each axle of the vehicle **must** not exceed the GAWR for that axle.
- d) Axle loads **must** comply with all the provincial weight restrictions across Canada.

3.4.3 Dimensions

- a) If a truck chassis is provided, the vehicle **must** have road legal dimensions across Canada.
- b) If a purpose-built chassis is provided, the vehicle **must** have dimensions for safe transport across Canada.
- c) The maximum overall **height** of the vehicle **must** be 4.2 metres (13.7 feet).
- d) The maximum overall **length** of the vehicle **must** be 12.8 metres (42 feet).
- e) The maximum overall **width** of the vehicle **must** be 4.5 metres (14.7 feet).
- f) The vehicle minimum ground clearance **must** be 200 mm (7.8 inches).

3.5 C-17 Air Transportability

- a) The vehicle **must** be air transportable in a C-17 Globemaster (Canadian Forces CC-177).
- b) For C-17 Aircraft loading, the vehicle tie down provisions **must**:
 - i. Accept a minimum forward load of 3 g, rearward load of 1.5 g, vertical load of 2 g and lateral load of 1.5 g (1 g = shipping weight of the equipment), loads are not imposed simultaneously;

- ii. Be positioned to anchor the vehicle, to prevent shifting or movement during transport;
 - iii. Be permanent and integrally attached;
 - iv. Be positioned to provide access for the attachment of cables or turnbuckles;
 - v. Be clearly marked with the maximum permitted load; and
 - vi. Provide complete tie down provision locations with decals in the vehicle cab.
- c) The vehicle **must** be configured for air transportability using only common hand tools, by three (3) trained people, in 90 minutes or less with all removed equipment stored on the vehicle.

3.6 Frame

- a) The frame **must** be of heavy duty construction and either a truck chassis or purpose-built chassis, manufactured for use in all conditions specified in Paragraphs 3.2, 3.3 and 3.4.
- b) Two (2) tow hooks **must** be provided at the front of the vehicle, one on each side of the centreline.
- c) One (1) tow hook **must** be provided at the rear of the vehicle.

3.6.1 Outriggers or Stabilizers

- a) Stabilizers and outriggers **must** be provided in accordance with safety requirements in ANSI/SAIA A92.7.
- b) If stabilizers or outriggers are required, an emergency system **must** be provided to allow the vehicle to be moved with the outriggers/stabilizers in an extended position.

3.7 Engine

- a) The engine **must** operate on ultra-low sulphur diesel fuel to the CAN/CGSB Standard 3.517 and meet the latest emission standards.

3.7.1 Engine Components

- a) A replaceable air filter(s) **must** be provided.
- b) A cooling system **must** be provided.
- c) A combustion air cleaning system **must** be provided, with an air cleaner restriction indicator visible to the operator.
- d) A governor **must** be provided.
- e) A full flow replaceable oil filter **must** be installed.
- f) An engine shutdown or de-rate system **must** be provided, including a visual warning indicator visible from the operator position.

3.7.2 Cold Weather Starting Aids

- a) A low temperature engine starting aid **must** be provided, including glow plug(s) or intake air preheat system.
- b) A thermostatically controlled water separator/fuel filter **must** be provided to preheat diesel fuel prior to starting.
- c) A thermostatically controlled in-line fuel heater **must** be provided.
- d) A 110-volt battery heater(s) **must** be provided.
- e) The battery **must** be housed in an insulated battery box, blanket or heated enclosure.
- f) All cold weather aids **must** be connected with a cover-protected, external electrical power plug, powered through dedicated shoreline receptacles.
- g) The cold weather aid receptacles **must** be grouped together.

3.7.3 Exhaust System

- a) The vehicle **must** be equipped with an exhaust system shielded to prevent personnel contacting a heated surface.
- b) The exhaust system **must** prevent entry of rain.
- c) If a Selective Catalytic Reduction (SCR) System is used, there **must** be manual deactivation and activation controls for the automatic regeneration of the Diesel Particulate Filter (DPF).

3.8 Fuel Tank(s)

- a) A fuel tank(s) **must** be provided for the engine, auxiliary engine and combustion heaters, if provided.
- b) The fuel tank(s) **must** have a fuel capacity sufficient for a minimum of four (4) hours of de-icing operations.
- c) If more than one fuel tank is used, separate fuel gauges **must** be provided.

3.9 Transmission

- a) The vehicle **must** be equipped with mechanical, fully automatic or hydrostatic continuous drive transmission.
- b) The transmission **must** have an oil heater, if required to meet the operating conditions specified in Paragraph 3.2.
- c) The transmission **must** have an oil cooler.
- d) The transmission **must** have a replaceable oil filter.
- e) The transmission shift control **must** clearly indicate the position of the shift column under all lighting conditions.
- f) The transmission **must** include a "Park" or "Neutral" starting interlock.

- g) A transmission oil dipstick **must** be provided.
- h) An audible back-up alarm **must** be installed to alert personnel that the vehicle transmission is in reverse.

3.9.1 **Power Take-Off (PTO)**

- a) If a PTO is provided, it **must** be a hot-shift type.
- b) The shifting mechanism **must** be controlled from the cab.
- c) Engagement of the PTO **must** render the vehicle's accelerator pedal inoperable.
- d) A safety guard **must** cover the PTO shaft.
- e) A safety mechanism **must** be installed to prevent damaging the PTO/gear box shifting mechanism and transmission during engagement/disengagement.

3.10 **Braking System**

- a) The vehicle **must** be equipped with a power assisted (air, hydraulic, electric, etc.) braking system.
- b) Drum brakes **must** not be provided.
- c) The braking system **must** include an anti-lock (ABS) brake system.
- d) If an air brake system is provided, the braking system **must** include a wet tank reservoir.
- e) If an air brake system is provided, the braking system **must** include an automatic air dryer.

3.10.1 **Parking Brake**

- a) The vehicle **must** be equipped with a parking brake that can hold the unloaded vehicle on a 10 percent gradient.
- b) The parking brake control **must** be positioned so it will not interfere with the operator or snag their clothing when entering or exiting the vehicle.

3.11 **Suspension System**

- a) The vehicle **must** be equipped with multi-leaf type springs with bumper pads or an air suspension system.
- b) The suspension system **must** be provided with double acting shock absorbers on all axles.
- c) If an air system is provided, it **must** include immediate response automatic ride height control.
- d) If an air system is provided, a heated expello valve **must** be provided.

3.12 **Steering**

- a) The vehicle **must** be provided with a front-wheel power steering system.
- b) The steering system **must** be provided with a telescopic/tilt steering column.

3.13 Wheels, Rims and Tires

- a) Tires and rims **must** be selected in accordance with MVSR Technical Standards Documents No. 120, Revision 1R for a truck chassis **or** Tire and Rim Association Handbook for the purpose-built chassis.
- b) Tires **must** have a tread pattern for use in the operating conditions described in Paragraph 3.2.
- c) The wheels, tires and rims **must** include valve extensions for inner tires, if used, to allow for easy access.
- d) For each tire size provided, one full size spare tire assembly **must** be delivered with each vehicle.

3.14 Cab

- a) The vehicle **must** be equipped with a weatherproof cab.
- b) A fully adjustable driver's seat **must** be provided, with suspension and arm rests.
- c) The driver's seat **must** have dark upholstery and include a retractable **(3-point)** seat belt.
- d) If a passenger seat is provided, it **must** have dark upholstery and include a retractable **(3-point)** seat belt.
- e) A minimum of one (1) door **must** be provided with power locks, be keyed alike, and have keyless entry.
- f) A ventilation/heater and defrosting system **must** be provided, with a multi-speed fan, applicable for the operating conditions as specified in Paragraph 3.2.1.
- g) All windows **must** have glass tinting to reduce solar heating effects.
- h) A cab roof window of at least 400 square inches **must** be provided.
- i) The cab roof window **must** be electrically heated and equipped with windshield wiper.
- j) A powered windshield washer system **must** be provided with multi-speed wipers, where the wiper blades **do not** travel from a vertical center windshield position to a horizontal position near the roof line.
- k) The cab floor or floor mats **must** be weatherproof.
- l) A rotating interior sun visor(s) **must** be installed.
- m) A back-up camera system **must** be installed in the cab with a screen size of at least 17.7 cm (7 inches) that displays in colour.
- n) An AM/FM stereo radio with an auxiliary port **must** be provided.
- o) Two heavy-duty, powered and heated exterior side mirrors, with convex section, **must** be provided with in-cab controls.
- p) The cab **must** be equipped with a 4.5 kg (10 lb) ULC approved and rechargeable dry chemical fire extinguisher, type ABC 10G, equipped with a pressure gauge, service inspection tag, and accessible to the operator.

3.15 Aerial Device

- a) The vehicle **must** be equipped with an aerial device.
- b) The aerial device **must** be a hydraulically controlled telescoping boom.
- c) The aerial device **must** have a working height of at least 17 m (55.8 ft).
- d) The aerial device **must** support the operator's cab specified in Paragraph 3.15.1 with the dispensing nozzle system specified in Paragraph 3.20, an operator of capacity 136 kg (299.8 lb) and all other required equipment and fluids.
- e) The aerial device **must** include an automatic cab levelling system.
- f) The aerial device **must** have non-continuous boom rotation achieved by turret swing through at least a 340° arc.
- g) The aerial device **must** include a boom rest for boom storage in the stowed position with automatic boom stowage.

3.15.1 Operator's Station Cab

- a) A one-person enclosed operator's station cab mounted for ground level entry during the stowed position **must** be provided on the aerial device.
- b) The cab **must** be weatherproof and protect the operator from contact with fumes from de-icing fluid.
- c) The cab **must** provide a clear view without affecting operations.
- d) A forced-air heater and defroster system **must** be provided.
- e) Windshield wipers and washers **must** be provided.
- f) The cab **must** have a capacity of at least 136 kg (299.8 lb).
- g) The cab **must** include all controls and indicators for the full de-icing and anti-icing operations, all vehicle operations as well as all in-cab controls such as the heaters and defrosters.
- h) If a purpose-built vehicle is provided, the operator's station cab and the cab specified in Paragraph 3.13 can be integrated into one cab located on the boom.

3.16 De-icing and Anti-icing Tanks

- a) The vehicle **must** be equipped with two (2) tanks constructed out of corrosion resistant material.
- b) The two tanks **must** have a minimum total usable capacity of 8,000 litres (1759.8 Imp gallons).
- c) The tanks **must** be designed to prevent fluid overflow or tank pressure build-up during heating with the use of baffles and vents.
- d) The tanks **must** have baffling to prevent undue fluid motion and the cavitation of the fluid pump(s) during manoeuvring.
- e) The tank pressure fill lines and valves **must** be located for access from ground level.

- f) 20ft tank fill hoses **must** be provided for each tank to draw fluid from an external source equipped with dust-covers and with on-board storage.
- g) The tank fill and drain valves **must** be at least 5 cm (2 inch).
- h) The tanks **must** be sloped for drainage.
- i) Each tank **must** have manholes located at the top for cleaning access.
- j) The tanks **must** have manual fill holes located at the top.
- k) The tanks **must** have fall arrest harness anchor points located at the top.
- l) A minimum of one (1) tank access ladder **must** be provided with hand rails and grip strut material.
- m) Visible fluid level gauges **must** be provided on each tank.
- n) Colour coding **must** be provided for each of the de-icing and anti-icing tanks, piper, valves and related components.
- o) Audible and visual warnings **must** be located in the cab when approaching a low tank level condition indicating approximately 2 minutes of spraying time remains.

3.17 Auxiliary Engine

- a) If an auxiliary engine is provided, it **must** meet the requirements of Paragraph 3.7.

3.18 De-icing Fluid Dispensing System

- a) The de-icing fluid dispensing system **must** provide a maximum flow rate of at least 220 LPM (48.4 IGPM).
- b) The system **must** be compatible with Type I (ethylene and/or propylene glycol based) heated de-icing fluids.
- c) The system **must** include a pump.
- d) The pump **must** be equipped with a sensor(s) to automatically prevent it from running dry.
- e) The system **must** re-circulate fluid directly back to the tank without the pump overheating.
- f) The system **must** include a 10 m (32.8 ft) long ground hose and a swivel mounted spray nozzle located at the front of the vehicle body.
- g) A shut-off valve **must** be installed immediately up-stream of the ground hose.
- h) The ground reel **must** be stowed on an automatic hose reel.
- i) The system **must** include a fluid meter that indicates, in litres, the de-icing fluid dispensed.
- j) The fluid meter **must** have a readout in the cab.
- k) The system **must** be designed for the complete drainage of fluid in the tank, supply and return piping, by drain valves, to prevent freeze-up.

3.19 Anti-icing Fluid Dispensing System

- a) The anti-icing fluid dispensing system **must** provide a maximum flow rate of at least 75 LPM (16.5 IGPM).
- b) The fluid handling system **must** be compatible with Type IV (ethylene and/or propylene glycol based with added thickeners) anti-icing fluids.
- c) The anti-icing fluid dispensing system **must** include a pump.
- d) The pump **must** be equipped with a sensor(s) to automatically prevent it from running dry.
- e) The system **must** include a fluid meter that indicates, in litres, the de-icing fluid dispensed.
- f) The fluid meter **must** have a readout in the cab.
- g) The system **must** be designed for the complete drainage of fluid in the tank, supply and return piping, by drain valves to prevent freeze-up.

3.20 Forced Air System

- a) A forced air system **must** be provided.
- b) The forced air system **must** be selectable to supply forced air only or a mixture of forced air and de-icing fluid from the nozzle specified in Paragraph 3.21.
- c) The forced air system **must** remove accumulated snow from aircraft surfaces without damage to the aircraft.

3.21 Dispensing Nozzle System

- a) The nozzle system **must** be fix-mounted on a remote controlled base.
- b) The nozzle system **must** be used for de-icing, anti-icing and forced air capabilities separately or in combination.
- c) Controls to select between e-icing, anti-icing and forced air capabilities separately or in combination **must** be provided in the operator's station cab.
- d) The nozzle system **must** produce high pressure and low pressure de-icing.
- e) The nozzle **must** have a spray pattern controlled by using an adjustable nozzle that varies from a cone-shaped spray to a solid stream as selected by the operator.
- f) The nozzle **must** be fully controllable by the operator.

3.22 De-Icing Heating System

- a) The heating system **must** include a heater(s) for the de-icing fluid.
- b) The heater **must** maintain the fluid temperature at a temperature of the de-icing fluid at a minimum of 80°C under all operating conditions.
- c) The heater(s) **must** also incorporate a separate over temperature switch.

- d) If a fuel-fired heater is provided, a flame detection circuit, fluid flow switch and exhaust spark arrester **must** be provided along with all other components required to prevent the burning of accumulated fuel.
- e) If a fuel-fired heater is provided, shielding **must** be provided for the combustion chamber with the heater(s) completely enclosed within the exterior surfaces of the vehicle.
- f) Components of the heater(s) **must** be corrosion resistant and compatible with de-icing fluids.
- g) The heating system **must** include “hot at nozzle” heating.

3.22.1 **Fire Extinguishing System**

- a) An automatic fire extinguishing system **must** be installed.
- b) The extinguishing agent **must** be Purple K or equivalent.

3.23 **Pump(s) Disconnect**

- a) The de-icing and anti-icing pumps **must** have a means to be clutched or disconnected from the drive engine to allow for the operation of aerial device while performing non-de-icing roles.

3.24 **Body Compartments**

- a) Body compartments **must** be provided for the fluid tanks, auxiliary engine, pumps, heaters and all other components other than the aerial boom and nozzle system.
- b) The body compartments **must** be weatherproof and insulated for the weather conditions specified in Paragraph 3.2.1.
- c) The body compartments **must** provide access to service the enclosed components.
- d) The top surface of the compartments **must** have the capacity to support a 136 kg (299.8 lb) person.
- e) The top surface of the compartments **must** be anti-slip and have steps, handles and platforms.
- f) The compartments **must** have flush-mounted panel doors and latches.
- g) All exposed edges or corners of the body **must** have a smooth radius to prevent injury to operator and damage to materiel.

3.25 **Accessories**

- a) Front licence plate holder **must** be provided.
- b) Rear licence plate holder with LED light **must** be provided.
- c) Mud flaps **must** be provided.
- d) A spill kit(s) **must** be provided with on-board storage.

3.26 **Hydraulic System**

- a) The vehicle **must** be equipped with a hydraulic system.

- b) A hydraulic oil cooler **must** be provided.
- c) Hydraulic filter change indicators **must** be provided.
- d) Hydraulic hoses **must** be grouped together and clearly identified.
- e) Clearly marked test ports **must** be provided.
- f) Hydraulic pressure test gauge with applicable fittings and hoses **must** be provided.

3.27 Lubricants and Fluids

- a) All lubricants and fluids provided **must** meet the operating conditions specified in Paragraph 3.2.1.

3.28 Electrical System

- a) The vehicle **must** be equipped with a 12-volt or 24-volt electrical system
- b) Wiring **must** be protected by insulating grommets, where passing through metal.
- c) Heavy-duty, maintenance free batteries **must** be provided and secured in an accessible well-protected location.
- d) A master disconnect switch, accessible from the ground, **must** be provided.

3.29 Lighting

- a) The vehicle **must** be equipped with LED lights only, which includes: type signal, marker, tail, stop, clearance, licence plate, and back-up lights.
- b) If a truck chassis is provided it **must** meet MVSR lighting requirements.
- c) Lights **must** be recessed or otherwise protected from damage with all components accessible for servicing.
- d) Instrument and controls panel lights **must** be provided and be dimmable.
- e) At least one (1) amber coloured beacon light mounted on the highest point of the vehicle when the boom is stowed **must** be provided.
- f) One (1) adjustable work light **must** be provided mounted on the boom to light the nozzle system.
- g) Two (2) adjustable work lights **must** be provided mounted on the top of the operator's station cab.
- h) At least two (2) adjustable work lights **must** be provided mounted at the rear of the vehicle.
- i) Lighting **must** be provided in all body compartments.
- j) All controls for the lights **must** be located in the cab and in the operator's station cab.

3.30 Controls

- a) Each control **must** be permanently marked to identify the function, in both English and French or international symbols as defined by SAE J1362.

- b) Vehicle controls **must** be grouped together in the cab specified in Paragraph 3.14 and in the operator's station cab specified in Paragraph 3.15.1.
- c) De-icer controls **must** be grouped together in the operator's station cab specified in Paragraph 3.15.1.
- d) Controls **must** not restrict the operator's field of view.

3.31 Instruments

- a) Instruments **must** be metric and visible to the seated operator in all lighting conditions.
- b) An ammeter, voltmeter or charging indicator **must** be provided.
- c) An engine coolant temperature indicator **must** be provided.
- d) A hydraulic oil temperature **must** be provided.
- e) An engine oil pressure indicator **must** be provided.
- f) An hour-meter with numeric display, which accurately records accumulated engine running time up to at least 9,999 hours **must** be provided.
- g) A fuel level indicator **must** be provided.
- h) A speedometer **must** be provided.
- i) An engine tachometer **must** be provided.
- j) An indicator to show when the aerial boom is not in the stowed position **must** be provided.
- k) De-icing fluid temperature gauge reading **must** be provided.
- l) De-icing and anti-icing fluid level indicators **must** be provided.
- m) If an auxiliary engine is provided instruments b), c), e) and f) **must** be provided.

3.32 Paint

- a) All metal surfaces **must** be protected.
- b) The prime coating **must** be a high durability, corrosion resistant type, such as an epoxy.
- c) The colour **must** be Dupont Axalta 750206 E B Penn Dot Yellow or equivalent.

3.33 Retroreflective Tape

- a) Retroreflective tape **must** be placed on the vehicle on all extremities of the vehicle and operator cabs, along the vehicle body and along the aerial boom.
- b) If a truck chassis is provided, placement of the tape **must** be in accordance with the Motor Vehicle Safety Regulations (MVSR).

3.34 Corrosion Protection

- a) The vehicle **must** be designed and manufactured to prevent galvanic corrosion.
- b) The materials used in the vehicle manufacturing **must** resist damage or deterioration as a result of cleaning with hot or cold water, steam, or detergents.
- c) A commercial rust prevention coating **must** be applied to the vehicle, such as Krown Rust Control or Rust Check or equivalent.
- d) A decal and warranty papers for the rust prevention coating **must** accompany the vehicle.

3.35 Warning, Markings and Instruction Plates

- a) All identification, instructional, and warning labels **must** be bilingual or International symbols defined in SAE J1362.
- b) All identification, instructional, and warning labels **must** within view of the operator.
- c) All gauges and controls and **must** be permanently labelled.

3.35.1 Vehicle identification

- a) The vehicle identification information **must** be permanently affixed in a conspicuous and protected location.
- b) Identification information **must** include the cab and chassis manufacturer's name, model number, serial number, and model year.
- c) Identification information **must** include the body manufacturer's model and serial number.
- d) Identification information **must** include the equipment manufacturer's model and serial number.
- e) Identification information **must** include the GVWR and GAWR ratings.

4. INTEGRATED LOGISTIC SUPPORT

4.1 Vehicle Manuals

- a) All manuals required for the description, operation, maintenance and repair of the complete equipment, including sub-systems, **must** be provided.

4.1.1 Operator's Manuals

- a) The operator's manuals **must** be bilingual (English/French).
- b) The operator's manuals **must** include instructions for the safe operation of the vehicle.
- c) The operator's manuals **must** include daily operator maintenance instructions/checks (including lubrication).
- d) The operator's manuals **must** include safety warnings.
- e) The operator's manuals **must** include hand signals (as necessary).

4.1.2 **Parts Manual(s)**

- a) The parts manual(s) **must** be in English (bilingual is desirable).
- b) The parts manual **must** have illustrations showing all components of the vehicle including equipment and accessories from other manufacturers that are supplied to meet the requirements of the contract, with numbers for the itemization of the parts.
- c) The parts manual **must** have a listing for all itemized parts showing the Original Equipment Manufacturers (OEM) part number, the part name and a brief description of the item.
- d) The parts manual **must** cross reference the OEM part number to the correct illustration and item number.
- e) The parts manual **must** have a representation of bilingual warning signs and identification labels delivered on the equipment.

4.1.3 **Maintenance Manuals**

- a) The maintenance manual **must** be English (French translation is desirable).
- b) The maintenance manual **must** include a trouble shooting guide, showing the steps and tests required to determine the exact cause of a problem and an explanation of the steps required to correct a problem.
- c) The maintenance manual **must** include a listing of the necessary tolerances, torque levels, fluid volume, and special tools (including item part numbers).
- d) The maintenance manual **must** include information on the order of disassembly and assembly of the systems and components of the vehicle.
- e) The maintenance manual **must** include special tools list as per Paragraph 4.3.4.

4.1.4 **Manual Delivery to Technical Authority**

- a) Sample manuals **must** be submitted to the Technical Authority (TA) prior to the delivery of the vehicle/trailer for each model and or sub-system for approval. Sample manuals will not be returned. TA will provide approval or comments on the manuals within 30 days.
- b) One (1) complete set of approved manuals (Operator's, Maintenance, and Parts) in electronic format **must** be delivered to the Technical Authority.

4.1.5 **Manual Delivery with Vehicle**

- a) One (1) complete set of manuals (Operator's, Maintenance, and Parts) **must** accompany each vehicle.
- b) The manuals **must** be in paper and electronic format.

4.1.6 **Electronic Format**

- a) Approved copies of the electronic format manuals **must** be delivered on CD/DVD-ROM.
- b) CD/DVD-ROM **must not** require installation, password and/or Internet connection to be accessed and be an unlocked PDF in a searchable format.

4.1.7 **Provisional Manuals**

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

4.1.8 **Manual Supplements**

- a) The contractor **must** supply manual supplements (Operator’s, Maintenance and Parts) to support dealer-installed equipment not covered in the Vehicle Manuals.
- b) Manual supplements **must** be delivered in accordance with Paragraphs 4.1.4 and 4.1.5.

4.1.9 **Translation and Reproduction Rights**

- a) The Canadian Government **must** reserve the right to translate and reproduce, for Government use only, all or any part of the publications supplied, including the training packages delivered against the contract agreement.

4.1.10 **Changes to Manuals**

- a) During the period of the contract, changes to equipment, which affect the contents of manuals, **must** be reflected in the revision of the electronic and paper version of the manuals.
- b) Changes to the manuals **must** conform to the same format and presentation requirements as the original manuals.
- c) The revised electronic version of the manual **must** be sent to the Technical Authority by the Contractor.

4.2 **Warranty Letter**

- a) The warranty letter **must** include additional warranty coverage of sub-systems and a copy of the warranty letter from each sub-system’s Original Equipment Manufacturer (OEM).
- b) The warranty letter **must** include warranty period as negotiated in the contract.
- c) The warranty letter **must** include Contractor contact information, name and phone number, for warranty support.

4.2.1 **Warranty Letter Delivery**

- a) The Contractor **must** provide a bilingual warranty letter to the Technical Authority and with each vehicle. If the Technical Authority requires the letter to be in DND format, then they will provide the Contractor a template for the DND acceptable format of the warranty letter.

4.3 **Other ILS Deliverables to Technical Authority**

4.3.1 **Data Summary**

- a) The Contractor **must** provide a bilingual Data Summary for each make/model/configuration of vehicle by completing Technical Authority’s template with data and a vehicle picture.

4.3.2 **Photographs**

- b) The Contractor **must** provide photographs in colour, taken against a plain background, and in digital JPEG format with a minimum 10 megapixel resolution.
- c) One left front three-quarter view of a completed unit **must** be provided.
- d) One right rear three-quarter view of a completed unit **must** be provided.

4.3.3 **Dimensioned Drawing**

- a) One side and front view sketch showing the dimensions **must** be provided. Brochure sketches are acceptable.

4.3.4 **Special Tools List** - The Contractor **must** provide an itemized list of specific special tools required for the servicing and repair of the vehicle and include:

- a) Item name;
- b) Contractor's part number;
- c) Manufacturer's part number (OEM);
- d) Quantity recommended per delivery location;
- e) Unit price; and
- f) Unit of issue.

4.3.5 **Preventive Maintenance Replacement Parts Kit List (PMRPKL)** - The contractor **must** provide a list detailing the parts that are required to perform preventive maintenance to the system for a period of 12 months, and include:

- a) Item name;
- b) Contractor's part number;
- c) Manufacturer's part number (OEM);
- d) Manufacturer's NATO Supply code (NCAGE) or name and address;
- e) NSN (NATO Stock Number) (if known);
- f) Quantity per equipment;
- g) Quantity recommended;
- h) Unit price; and
- i) Unit of issue.

4.3.6 **Recommended Spare Parts List (RSPL)** - The Contractor **must** provide a list detailing the spare parts deemed necessary to maintain the vehicle for a period of 24 months exclusive of any warranty period, and include:

- a) Item name;
- b) Contractor's part number;
- c) Manufacturer's part number (OEM);
- d) Manufacturer's NATO Supply code (NCAGE) or name and address;
- e) NSN (NATO Stock Number) (if known);
- f) Quantity per equipment;
- g) Quantity recommended;
- h) Unit price; and
- i) Unit of issue.

4.3.7 **Supplementary Provisioning Technical Documentation (SPTD)**

- a) The Contractor **must** provide SPTD as per 2.1
- b) The SPDT **must** include each item appearing on the RSPL as defined in 4.3.6
- c) For item identification and cataloguing purposes, the technical data supplied **must** be sufficiently comprehensive to allow DND to classify and fully describe the items within the NATO codification system.

4.4 Safety Recalls and Servicing Data

- a) Safety recalls, and manufacturer's technical service bulletins, or equivalent **must** be provided to the technical authority and the final delivery locations on a continuing basis, throughout the life expectancy of the vehicle or for no less than 10 years.

4.5 Initial Parts Kit

- a) One initial parts kit **must** be delivered with each vehicle.
- b) Each kit **must** include a complete set of filters and filter elements from the Original Equipment Manufacturer (OEM) required in the first 12 months of service.

4.6 Training

4.6.1 **Maintenance Training**

- a) The Contractor **must** provide a maintenance training course.
- b) The course **must** be given at the delivery destination.
- c) The course **must** be available in both official languages.

- d) The course **must** have a minimum duration of one (1) day to provide training of up to eight (8) maintenance personnel and have the final dates arranged with the Technical Authority.
- e) The course **must** have a syllabus or course outline and schedule available for review seven (7) days prior to the course commencement date.
- f) After completion of the course, the Contractor **must** have a “*PROOF OF MAINTENANCE TRAINING*” certificate signed by a Canada Representative for the destination. The Technical Authority will supply this document in an electronic format.

4.6.2 **Maintenance Training Curriculum**

- a) Operator’s training detailed in Paragraph 4.6.4 below **must** be included in the curriculum.
- b) Operation and maintenance safety precautions **must** be included in the curriculum.
- c) Preventive maintenance including servicing schedules (10 % of classroom time) **must** be included in the curriculum.
- d) Trouble shooting, testing, and adjustments (70 % of classroom time) **must** be included in the curriculum.
- e) Special tools and test equipment **must** be included in the curriculum.

4.6.3 **Operator Training**

- a) The Contractor **must** provide an operator training course.
- b) The course **must** be given at the delivery destination.
- c) The course **must** be available in both official languages.
- d) The course **must** have minimum duration of one (1) day to provide training for up to eight (8) operators and have the final dates arranged with the Technical Authority.
- e) The course **must** have a syllabus or course outline and schedule available for review seven (7) days prior to the course commencement date.
- f) After completion of the course the Contractor **must** 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.

4.6.4 **Operator Training Curriculum**

- a) Safety precautions to be observed while operating and servicing the vehicle **must** be included in the curriculum.
- b) Vehicle operating characteristics **must** be included in the curriculum.
- c) Vehicle operating procedures **must** be included in the curriculum.
- d) Pre-operating and pre-shutdown procedures **must** be included in the curriculum.
- e) Daily/weekly operator servicing procedures **must** be included in the curriculum.

f) A minimum of two (2) hours practical operating experience, per operator, **must** be provided.

4.6.5 **Training Materials**

- a) Training materials **must** be provided to each attendee, in French for locations in Quebec.
- b) Training materials **must** include a list of topics to be covered;
- c) Training materials **must** include an approximate timetable showing when topics are scheduled to be covered and how much time is scheduled for each topic;
- d) Training materials **must** list any reference material; and
- e) Training materials **must** make available any reference material used.

Solicitation No. - N° de l'invitation
DRAFT - W8476-175634/A - DRAFT
Client Ref. No. - N° de réf. du client
W8476-175634

Amd. No. - N° de la modif.
File No. - N° du dossier
HS634.W8476-175634

Buyer ID - Id de l'acheteur
HS634
CCC No./N° CCC - FMS No./N° VME

ANNEX E - ELECTRONIC PAYMENT INSTRUMENTS

The Bidder accepts any of the following Electronic Payment Instrument(s):

- VISA Acquisition Card;
- MasterCard Acquisition Card;
- Direct Deposit (Domestic and International);
- Electronic Data Interchange (EDI);
- Wire Transfer (International Only);
- Large Value Transfer System (LVTS) (Over \$25M)

ANNEX F - FEDERAL CONTRACTORS PROGRAM FOR EMPLOYMENT EQUITY - CERTIFICATION

I, the Bidder, by submitting the present information to the Contracting Authority, certify that the information provided is true as of the date indicated below. The certifications provided to Canada are subject to verification at all times. I understand that Canada will declare a bid non-responsive, or will declare a contractor in default, if a certification is found to be untrue, whether during the bid evaluation period or during the contract period. Canada will have the right to ask for additional information to verify the Bidder's certifications. Failure to comply with any request or requirement imposed by Canada may render the bid non-responsive or constitute a default under the Contract.

For further information on the Federal Contractors Program for Employment Equity visit [Employment and Social Development Canada \(ESDC\)-Labour's website](#).

Date: _____(YYYY/MM/DD) (If left blank, the date will be deemed to be the bid solicitation closing date.)

Complete both A and B.

A. Check only one of the following:

- A1. The Bidder certifies having no work force in Canada.
- A2. The Bidder certifies being a public sector employer.
- A3. The Bidder certifies being a federally regulated employer being subject to the Employment Equity Act.
- A4. The Bidder certifies having a combined work force in Canada of less than 100 employees (combined work force includes: permanent full-time, permanent part-time and temporary employees [temporary employees only includes those who have worked 12 weeks or more during a calendar year and who are not full-time students]).
- A5. The Bidder has a combined workforce in Canada of 100 or more employees; and
 - A5.1. The Bidder certifies already having a valid and current Agreement to Implement Employment Equity (AIEE) in place with ESDC-Labour.

OR

- A5.2. The Bidder certifies having submitted the Agreement to Implement Employment Equity (LAB1168) to ESDC-Labour. As this is a condition to contract award, proceed to completing the form Agreement to Implement Employment Equity (LAB1168), duly signing it, and transmit it to ESDC-Labour.

B. Check only one of the following:

- B1. The Bidder is not a Joint Venture.

OR

Solicitation No. - N° de l'invitation
DRAFT - W8476-175634/A - DRAFT
Client Ref. No. - N° de réf. du client
W8476-175634

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HS634.W8476-175634

Buyer ID - Id de l'acheteur
HS634
CCC No./N° CCC - FMS No./N° VME

- () B2. The Bidder is a Joint Venture and each member of the Joint Venture must provide the Contracting Authority with a completed annex Federal Contractors Program for Employment Equity - Certification. (Refer to the Joint Venture section of the Standard Instructions)

Part 5 - Question to Industry - Runway Snow Blower

Financial Question Related to the Runway Snow Blower

Intent	The purpose of the Snow and Ice Control Capitalization (SNICCR) question is to request indicative costing information from suppliers in order to allow Canada to prepare its documents for Project Approval. Respondents are asked to provide Rough Order of Magnitude (ROM) pricing for as many questions and activities as possible in this section. If a specific cost element is not provided for any reason (e.g. it is included in the price for another item), please provide an explanation in your response.
Respondant's Information:	
Manufacturer:	
Year and Model:	

Firm Quantity

Item	Description	Purchase Description Reference	Quantity	Firm unit price 0 = No Cost
1	Runway Snow Blower - Firm Quantity - In accordance with Part 4 - Draft Request for Proposal.			
1.1	3 Wing Bagotville	3	4	
1.2	4 Wing Cold Lake	3	3	
1.3	8 Wing Trenton	3	5	
1.4	14 Wing Greenwood	3	4	
1.5	17 Wing Winnipeg	3	3	
1.6	19 Wing Comox	3	3	
1.7	Any economy of scale for a certain quantity procured?			
2	Integrated Logistic Support (ILS) - Firm Quantity - In accordance with Part 4 - Draft Request for Proposal.			
2.1	Operator's Manuals - Bilingual	4.1.1	22	
2.2	Parts Manual(s) - English	4.1.2	22	
2.2.1	Is the French Manual available? If available provide the cost.			
2.3	Maintenance Manuals - English	4.1.3	22	
2.3.1	Is the French Manual available? If available provide the cost.			
2.4	Warranty Letter	4.2	22	
2.5	Data Summary - Bilingual	4.3.1	1	

Part 5 - Question to Industry - Runway Snow Blower

2.6	Photographs	4.3.2	1
2.7	Dimensioned Drawings	4.3.3	1
2.8	Special Tools List	4.3.4	1
	Provide the detailed list by following this link.		
2.9	Preventive Maintenance Replacement Parts Kit List (PMRPKL)	4.3.5	1
	Provide the detailed list by following this link.		
2.10	Recommended Spare Parts List (RSPL)	4.3.6	1
	Provide the detailed list by following this link.		
2.11	Supplementary Provisioning Technical Documentation (SPTD)	4.3.7	1
2.12	Initial Parts Kit	4.5	22
3	Training - Firm Quantity - In accordance with Part 4 - Draft Request for Proposal.		
3.1	Maintenance Training - English	4.6.1	1
3.2	Maintenance Training - French	4.6.1	1
3.3	Operator Training - English	4.6.3	1
3.4	Operator Training - French	4.6.3	1
3.5	Estimated cost for travel and living for the following locations :		
3.5.1	3 Wing Bagotville		
3.5.2	4 Wing Cold Lake		
3.5.3	8 Wing Trenton		
3.5.4	14 Wing Greenwood		
3.5.5	17 Wing Winnipeg		
3.5.6	19 Wing Comox		
4	Extended Warranty Period - In accordance with Part 4 - Draft Request for Proposal.	Months	Hours
4.1	Warranty Period extended to		
4.2	Provide all the different options along with the cost		

Optional Quantity

Item	Description	PD Reference	Up to a quantity of	Firm unit price
5	Runway Snow Blower - Optional Quantity - In accordance with Part 4 - Draft Request for Proposal.			
5.1	Year 1 - First 12-month period from date of contract award	3	2	
5.2	Year 2 - Second 12-month period from date of contract award	3		
6	Integrated Logistic Support (ILS) - Optional Quantity - In accordance with Part 4 - Draft Request for Proposal.			
6.1	Operator Manuals - Bilingual	4.1.1	2	
6.2	Parts Manual(s) - English	4.1.2	2	

Part 5 - Question to Industry - Runway Snow Blower

6.2.1	Is the French Manual available? If available provide the cost.		
6.3	Maintenance Manuals - English	4.1.3	2
6.3.1	Is the French Manual available? If available provide the cost.		
6.4	Warranty Letter	4.2	2
6.5	Data Summary - Bilingual	4.3.1	2
6.6	Initial Parts Kit	4.3.6	2
7	Training - Optional Quantity - In accordance with Part 4 - Draft Request for Proposal.		
7.1	Maintenance Training - English	4.6.1	2
7.2	Maintenance Training - French	4.6.1	
7.3	Operator Training - English	4.6.3	2
7.4	Operator Training - French	4.6.3	
8	Extended Warranty Period - In accordance with Part 4 - Draft Request for Proposal.	Months	Hours
8.1	Warranty Period extended to		
8.2	Provide all the different options along with the cost		Firm Unit Price

Additional requested information

9	Fielding support Representative (FSR) (available within 3 working days for locations in Canada, to inspect, repair, test, maintain, equipment, and/or train personnel) - Respondent can provide the total cost or a breakdown by activities or unit prices:	Hourly Rate
9.1	Preventive and corrective maintenance.	
9.2	Pre-delivery inspection.	
9.3	Provide any other related work you can be proposed along with the costing information	
10	Technical Investigation and Engineering Services (TIES)	Hourly Rate
10.1	Qualified Technicien	
10.2	Engineer	
10.3	Provide any other related labor categories you can be proposed along with the costing information	
11	Additional Work Requirement (AWR)	Hourly Rate
11.1	Qualified Technicien	
11.2	Engineer	
11.3	Provide any other related labor categories you can be proposed along with the costing information	

Part 5 - Question to Industry - Runway Snow Blower

Special Tools List

Please provide an itemized list of specific special tools required for the servicing and repair of the vehicle in accordance with the Purchase description section 4.3.4.

Please identify any item with intellectual property along with the availability and the cost of licensing (lump sum or per item).

Item number	Item Name	Part Number	NCAGE	Unit of issue	Quantity recommended per location	Unit Price	IP Right	Cost for licensing
1								
2								
3								
4								
5								
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23								
24								
25								

Part 5 - Question to Industry - Runway Snow Blower

Preventive Maintenance Replacement Parts Kit List (PMRPKL)

Please provide a list detailing the parts that are required to perform preventive maintenance to the system for a period of 24 months in accordance with the Purchase Description section 4.3.5.

Please identify any item with intellectual property along with the availability and the cost of licensing (lump sum or per item).

Item Number	NSN	Item Name	Part Number	NCAGE	Unit of issue	Quantity per equipment	Quantity recommended	Unit Price	IP Right	Cost for licensing
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
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21										
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23										
24										
25										

Part 5 - Question to Industry - Runway Snow Blower

Recommended Spare Parts List (RSPL)

Please provide a list detailing the spare parts deemed necessary to maintain the vehicle for a period of 24 months exclusive of any warranty period in accordance with the Purchase Description section 4.3.6.

Please identify any item with intellectual property along with the availability and the cost of licensing (lump sum or per item).

Item Number	NSN	Item Name	Part Number	NCAGE	Unit of issue	Quantity per equipment	Quantity recommended	Unit Price	IP Right	Cost for licensing
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
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19										
20										
21										
22										
23										
24										
25										

Part 5 - Question to Industry - Runway Snow Blower

Questions

A. Sustainment Requirements	
<p>As critical response equipment, SNIC equipment is required to have an achieved availability of 94% and a reliability of 90.3% at a confidence level of 90%. These availability and reliability targets are applied fleet wide. A sustainment solution will be required to provide in-service support for the Runway Snow Blower for the life of the equipment (minimum of 15 years after the equipment is in service). Please provide information on how these services can be provided and cost break down based on the following aspects related to sustainment of the vehicles:</p>	
1. Scope of Work:	
(a) Inspection, test, overhaul, repair, and maintenance of Runway Snow Blower	
(b) Facilities with workshop capabilities to inspect, test, repair, overhaul, and maintain equipment and equipment components.	
(c) Facilities with workshop capabilities for body repairs and paint application.	
(d) Operator and maintenance refresher training, as and when required, covering the safety precautions, trouble shooting, test and adjustment, special tools and test equipment, and safe operation of the apparatus.	
(e) Ensure all repair parts used for the repairs under the contract are the same form, fit, function and quality as the original parts. If the material and/or repair parts are not new production of current manufacture, or is from a source other than the principal manufacturer or its accredited agent, it must be unused and in new condition.	
2. Provision of Spares	
(a) Provide OEM parts to meet DND requirements on an as and when required basis. This arrangement may be used to provide repair parts for emergency and operational deployments for the Canadian Forces.	
3. Field Service Representative (FSR)	
(a) FSR available within 3 working days for locations in Canada, to inspect, repair, test, maintain, equipment, and/or train personnel. FSRs may require security clearance to access restricted areas and airfields.	
4. Technical Investigation and Engineering Services (TIES)	
(a) Provide engineering and design work in support of equipment or modifications to the fleet. Work will be completed by a qualified technologist or engineer at either the Contractor's facility or a location identified by DND.	

5. Warranty	
(a) Provide warranty for all work for a period of 12 months where the warranty period will begin on the date of acceptance. The work or any part of the work found to be defective or non-conforming will be repaired at no cost to DND.	
6. Maintenance Data – provide the following maintenance data:	
(a) Mean Time Between Failures (MTBF - years)	
(b) Vehicle Off Road time (VOR – hours)	
(c) Achieved Availability (%) – 94% as set by the operational requirements	
(d) Reliability (%) - 90.3% at a confidence level of 90% as set by the operational requirements	
(e) Work Order Closure Rate (hours)	
(f) Are the availability and reliability targets achievable for the life of the equipment?	
7. Various ILS services – provide the following services:	
(a) Technical publications management and updates	
(b) Configuration management as a result of any design changes	
(c) Spare parts obsolescence management	
(d) Recommendations and plans for life extension R&O activities	
(e) Operator and maintainer training	
(f) Updates to all technical publications throughout the life of the equipment	
(g) OEM approved replacement parts or equivalents	
(h) STTE as required	
B. Technical Questions	
1. Does the proposed vehicle meet the design standards in section Annex B Para 3.3.3?	
2. Will a transmission oil cooler be required (Reference Annex B Para 3.8)?	
3. Will a hydraulic oil cooler be required (Reference Annex B Para 3.15)?	
4. What are the back-up camera specs and screen resolution (Reference Annex B Para 3.13 n)?	
5. Can a ROPs certified cab be provided? If so, to what standard has it been certified?	
6. Is the proposed vehicle able to meet the dimensional and road transport requirements (Reference Annex B Para 3.4.3)?	

7. Does the proposed vehicle meet the seating requirements (Reference Annex B Para 3.13 c)? If not please provide explanation as to why the proposed solution is better.	
8. Does the proposed vehicle meet the paint requirements (Reference Annex B Para 3.21)?	
C. General	
1. If leasing of SNICCR platform is achievable, please provide detailed annual cost based on the same questions listed under the sections titled “SNICCR vehicles and ILS deliverables” and “Sustainment Requirements”.	
2. Any other suggestions or services to be offered for the in-service support of the equipment under the sustainment requirements?	
3. What OEM or sub-contractor support can be provided in Canada for warranty services? Please provide locations.	
D. Draft Request for Proposal	
1. For this type of equipment, Canada normally pays upon equipment delivery. This method of payment is not expected to change after contract award. Do you have any comments with regards to this method of payment?	
2. Canada plans to offer bidders the option of using an exchange rate protection provision for this contract. 2. a) Please comment on whether inclusion of this provision, including whether it will be useful or if there are any potential downsides. 2. b) Would your organization use this provision? 2. c) Canada intends to limit use of this provision only to the vehicles (excluding ancillary items, etc.). Will this create undue risk for potential suppliers?	
3. Canada plans to apply the holdback only to the vehicle and not to the ancillary items. The holdback will be released when all ancillary items are delivered. Please comment on this approach.	
4. a) Will the requirement to provide Supplementary Provisioning Technical Documentation (SPTD) create challenges for the potential suppliers? 4. b) Will the information requested in the SPTD provide enough information to allow Canada to compete the future vehicle sustainment contracts? 4. c) Please provide any comments or suggestions to ensure Canada can compete a vehicle sustainment contract.	
5. Is work on any part of the vehicle limited in any way by intellectual property rights? If yes, please provide detailed information.	
6. What is the proposed delivery schedule and lead times for the quantity specified in the document?	
7. Canada intends to include Supplemental General Conditions 4006 (2010-08-16) - Contractor to Own Intellectual Property Rights in Foreground Information –	

in this contract. Please comment on the use of these conditions.	
8. What is your standard warranty in months and/or hours?	
9. What environmental standards or green practices, if any, typically used in this industry?	
10. Please comment on any potential challenges complying with any of the terms and conditions included in the draft Request for Proposal document.	

Part 5 - Question to Industry - Multi-Tasking Equipment (MTE) with Runway Snow Plow and Towed Cradle Broom Sweeper

Financial Question Related to the Multi-Tasking Equipment (MTE) with Runway Snow Plow and Towed Cradle Broom Sweeper

Intent	The purpose of the Snow and Ice Control Capability Recapitalization (SNICCR) question is to request indicative costing information from suppliers in order to allow Canada to prepare its documents for Project Approval. Respondents are asked to provide Rough Order of Magnitude (ROM) pricing for as many questions and activities as possible in this section. If a specific cost element is not provided for any reason (e.g. it is included in the price for another item), please provide an explanation in your response.
Respondant's Information:	
Manufacturer:	
Year and Model:	

Firm Quantity				
Item	Description	Purchase Description Reference	Quantity	Firm unit price 0 = No Cost
1A	Multi-Tasking Equipment (MTE) with Plow - Firm Quantity - In accordance with Part 4 - Draft Request for Proposal.			
1A.1	3 Wing Bagotville	3	3	
1A.2	4 Wing Cold Lake	3	6	
1A.3	8 Wing Trenton	3	8	
1A.4	14 Wing Greenwood	3	5	
1A.5	17 Wing Winnipeg	3	2	
1A.6	19 Wing Comox	3	0	
1A.7	Any economy of scale for a certain quantity procured?			

Part 5 - Question to Industry - Multi-Tasking Equipment (MTE) with Runway Snow Plow and Towed Cradle Broom Sweeper

1B	Towed Cradle Broom Sweeper - Firm Quantity - In accordance with Part 4 - Draft Request for Proposal.			
1B.1	3 Wing Bagotville	3	6	
1B.2	4 Wing Cold Lake	3	8	
1B.3	8 Wing Trenton	3	9	
1B.4	14 Wing Greenwood	3	5	
1B.5	17 Wing Winnipeg	3	2	
1B.6	19 Wing Comox	3	3	
1B.7	Any economy of scale for a certain quantity procured?			
2	Integrated Logistic Support (ILS) - Firm Quantity - In accordance with Part 4 - Draft Request for Proposal.			
2.1	Operator Manuals - Bilingual	4.1.1	24	
2.2	Parts Manual(s) - English	4.1.2	24	
2.2.1	Is the French Manual available? If available provide the cost.			
2.3	Maintenance Manuals - English	4.1.3	24	
2.3.1	Is the French Manual available? If available provide the cost.			
2.4	Warranty Letter	4.2	24	
2.5	Data Summary - Bilingual	4.3.1	1	
2.6	Photographs	4.3.2	1	
2.7	Dimensioned Drawings	4.3.3	1	
2.8	Special Tools and Test Equipment (STTE) Provide the detailed list by following this link.	4.3.4	1	
2.90	Preventive Maintenance Replacement Parts Kit List (PMRPKL) Provide the detailed list by following this link.	4.3.5	1	
2.10	Recommended Spare Parts List (RSPL) Provide the detailed list by following this link.	4.3.6	1	
2.11	Supplementary Provisioning Technical Documentation (SPTD) Provide the detailed list by following this link.	4.3.7	1	
2.12	Initial Parts Kit	4.5	24	
3	Training - Firm Quantity - In accordance with Part 4 - Draft Request for Proposal.			
3.1	Maintenance Training - English	4.6.1	1	
3.2	Maintenance Training - French	4.6.1	1	
3.3	Operator Training - English	4.6.3	1	
3.4	Operator Training - French	4.6.3	1	
3.5	Estimated cost for travel and living for the following locations :			
3.5.1	3 Wing Bagotville			

Part 5 - Question to Industry - Multi-Tasking Equipment (MTE) with Runway Snow Plow and Towed Cradle Broom Sweeper

3.5.2	4 Wing Cold Lake					
3.5.3	8 Wing Trenton					
3.5.4	14 Wing Greenwood					
3.5.5	17 Wing Winnipeg					
3.5.6	19 Wing Comox					
4	Extended Warranty Period - In accordance with Part 4 - Draft Request for Proposal.		Months	Hours		Firm Unit Price
4.1	Warranty Period extended to					
4.2	Provide all the different options along with the cost					

Optional Quantity

Item	Description	PD Reference	Up to a quantity of		Firm unit price
5A	Multi-Tasking Equipment (MTE) with Plow - Optional Quantity - In accordance with Part 4 - Draft Request for Proposal.				
5A.1	Year 1 - First 12-month period from date of contract award	3		5	
5A.2	Year 2 - Second 12-month period from date of contract award	3			
5B	Towed Cradle Broom Sweeper - Optional Quantity - In accordance with Part 4 - Draft Request for Proposal.				
5B.1	Year 1 - First 12-month period from date of contract award	3		5	
5B.2	Year 2 - Second 12-month period from date of contract award	3			
6	Integrated Logistic Support (ILS) - Optional Quantity - In accordance with Part 4 - Draft Request for Proposal.				
6.1	Operator Manuals - Bilingual	4.1.1		5	
6.2	Parts Manual(s) - English	4.1.2		5	
6.2.1	Is the French Manual available? If available provide the cost.				
6.3	Maintenance Manuals - English	4.1.3		5	
6.3.1	Is the French Manual available? If available provide the cost.				
6.4	Warranty Letter	4.2		5	
6.5	Data Summary - Bilingual	4.3.1		5	
6.6	Initial Parts Kit	4.3.6		5	

Part 5 - Question to Industry - Multi-Tasking Equipment (MTE) with Runway Snow Plow and Towed Cradle Broom Sweeper

7	Training - Optional Quantity - In accordance with Part 4 - Draft Request for Proposal.			
7.1	Maintenance Training - English	4.6.1	5	
7.2	Maintenance Training - French	4.6.1		
7.3	Operator Training - English	4.6.3	5	
7.4	Operator Training - French	4.6.3		
8	Extended Warranty Period - In accordance with Part 4 - Draft Request for Proposal.	Months	Hours	Firm Unit Price
8.1	Warranty Period extended to			
8.2	Provide all the different options along with the cost			

Additional requested information

9	Fielding support Representative (FSR) (available within 3 working days for locations in Canada, to inspect, repair, test, maintain, equipment, and/or train personnel) - Respondent can provide the total cost or a breakdown by activities or unit prices:	Hourly Rate
9.1	Preventive and corrective maintenance.	
9.2	Pre-delivery inspection.	
9.3	Provide any other related work you can be proposed along with the costing information	
10	Technical Investigation and Engineering Services (TIES)	Hourly Rate
10.1	Qualified Technicien	
10.2	Engineer	
10.3	Provide any other related labor categories you can be proposed along with the costing information	
11	Additional Work Requirement (AWR)	Hourly Rate
11.1	Qualified Technicien	
11.2	Engineer	
11.3	Provide any other related labor categories you can be proposed along with the costing information	

**Part 5 - Question to Industry - Multi-Tasking Equipment (MTE) with Runway Snow Plow and Towed Cradle
Broom Sweeper**

Special Tools List

Please provide an itemized list of specific special tools required for the servicing and repair of the vehicle in accordance with the Purchase description section 4.3.4.

Please identify any item with intellectual property along with the availability and the cost of licensing (lump sum or per item).

Item number	Item Name	Part Number	NCAGE	Unit of issue	Quantity recommended per location	Unit Price	IP Right	Cost for licensing
1								
2								
3								
4								
5								
6								
7								
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10								
11								
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13								
14								
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22								
23								
24								
25								

Part 5 - Question to Industry - Multi-Tasking Equipment (MTE) with Runway Snow Plow and Towed Cradle Broom Sweeper

Preventive Maintenance Replacement Parts Kit List (PMRPKL)

Please provide a list detailing the parts that are required to perform preventive maintenance to the system for a period of 24 months in accordance with the Purchase Description section 4.3.5.

Please identify any item with intellectual property along with the availability and the cost of licensing (lump sum or per item).

Item Number	NSN	Item Name	Part Number	NCAGE	Unit of issue	Quantity per equipment	Quantity recommended	Unit Price	IP Right	Cost for licensing
1										
2										
3										
4										
5										
6										
7										
8										
9										
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11										
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22										
23										
24										
25										

**Part 5 - Question to Industry - Multi-Tasking Equipment (MTE) with Runway Snow Plow and Towed
Cradle Broom Sweeper**

Recommended Spare Parts List (RSPL)

Please provide a list detailing the spare parts deemed necessary to maintain the vehicle for a period of 24 months exclusive of any warranty period in accordance with the Purchase Description section 4.3.6.

Please identify any Item with intellectual property along with the availability and the cost of licensing (lump sum or per item).

Item Number	NSN	Item Name	Part Number	NCAGE	Unit of issue	Quantity per equipment	Quantity recommended	Unit Price	IP Right	Cost for licensing
1										
2										
3										
4										
5										
6										
7										
8										
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25										

Part 5 - Question to Industry - Multi-Tasking Equipment (MTE) with Plow and Cradle Broom

Questions

A. Sustainment Requirements	
<p>As critical response equipment, SNIC equipment is required to have an achieved availability of 94% and a reliability of 90.3% at a confidence level of 90%. These availability and reliability targets are applied fleet wide. A sustainment solution will be required to provide in-service support for the Multi-Tasking Equipment (MTE) with Runway Snow Plow and Towed Cradle Broom Sweeper for the life of the equipment (minimum of 15 years after the equipment is in service). Please provide information on how these services can be provided and cost break down based on the following aspects related to sustainment of the vehicles:</p>	
1. Scope of Work:	
(a) Inspection, test, overhaul, repair, and maintenance of Multi-Tasking Equipment (MTE) with Runway Snow Plow and Towed Cradle Broom Sweeper	
(b) Facilities with workshop capabilities to inspect, test, repair, overhaul, and maintain equipment and equipment components.	
(c) Facilities with workshop capabilities for body repairs and paint application.	
(d) Operator and maintenance refresher training, as and when required, covering the safety precautions, trouble shooting, test and adjustment, special tools and test equipment, and safe operation of the apparatus.	
(e) Ensure all repair parts used for the repairs under the contract are the same form, fit, function and quality as the original parts. If the material and/or repair parts are not new production of current manufacture, or is from a source other than the principal manufacturer or its accredited agent, it must be unused and in new condition.	
2. Provision of Spares	
(a) Provide OEM parts to meet DND requirements on an as and when required basis. This arrangement may be used to provide repair parts for emergency and operational deployments for the Canadian Forces.	
3. Field Service Representative (FSR)	
(a) FSR available within 3 working days for locations in Canada, to inspect, repair, test, maintain, equipment, and/or train personnel. FSRs may require security clearance to access restricted areas and airfields.	
4. Technical Investigation Services	
(a) Provide engineering and design work in support of equipment or modifications to the fleet. Work will be completed by a qualified technologist or engineer at either the Contractor's facility or a location identified by DND.	
5. Warranty	

(a) Provide warranty for all work for a period of 6 months where the warranty period will begin on the date of acceptance. The work or any part of the work found to be defective or non-conforming will be repaired at no cost to DND.	
6. Maintenance Data – provide the following maintenance data:	
(a) Mean Time Between Failures (MTBF - years)	
(b) Vehicle Off Road time (VOR – hours)	
(c) Achieved Availability (%) – 94% as set by the operational requirements	
(d) Reliability (%) - 90.3% at a confidence level of 90% as set by the operational requirements	
(e) Work Order Closure Rate (hours)	
(f) Are the availability and reliability targets achievable for the life of the equipment?	
7. Various ILS services – provide the following services:	
(a) Technical publications management and updates	
(b) Configuration management as a result of any design changes	
(c) Spare parts obsolescence management	
(d) Recommendations and plans for life extension R&O activities	
(e) Operator and maintainer training	
(f) Updates to all technical publications throughout the life of the equipment	
(g) OEM approved replacement parts or equivalents	
(h) STTE as required	
B. Technical Questions	
1. Does the proposed vehicle meet the design standards in section 3.3.3 of Annex C?	
2. Will a transmission oil cooler be required (Reference Annex C Para 3.6.3)?	
3. Will hydraulic oil coolers be required (Reference Annex C Para 3.8)?	
4. What are the back-up camera specs and screen resolution (Reference Annex C Para 3.6.8 p)?	
5. Can a ROPs certified cab be provided? If so, to what standard has it been certified?	
6. Is the proposed vehicle able to meet the dimensional and road transport requirements (Reference Annex C Para 3.4.3)	
7. What is the capacity required for a prime mover to tow the proposed sweeper?	
8. What is the height required for a prime mover to tow the proposed sweeper?	
C. General	

1. If leasing of SNICCR platform is achievable, please provide detailed annual cost based on the same questions listed under the sections titled "SNICCR vehicles and ILS deliverables" and "Sustainment Requirements".	
2. Any other suggestions or services to be offered for the in-service support of the equipment under the sustainment requirements?	
3. What OEM or sub-contractor support can be provided in Canada for warranty services? Please provide locations.	
D. Draft Request for Proposal	
1. For this type of equipment, Canada normally pays upon equipment delivery. This method of payment is not expected to change after contract award. Do you have any comments with regards to this method of payment?	
2. Canada plans to offer bidders the option of using an exchange rate protection provision for this contract. 2. a) Please comment on whether inclusion of this provision, including whether it will be useful or if there are any potential downsides. 2. b) Would your organization use this provision? 2. c) Canada intends to limit use of this provision only to the vehicles (excluding ancillary items, etc.). Will this create undue risk for potential suppliers?	
3. Canada plans to apply the holdback only to price of the vehicle and not to the total value of the contract. The holdback will be released when all ancillary items are delivered. Please comment on this approach.	
4. a) Will the requirement to provide an SPTD create challenges for the potential suppliers? 4. b) Will the information requested in the SPTD provide enough information to allow Canada to compete a vehicle sustainment contract? 4. c) Please provide any comments or suggestions to ensure Canada can compete a vehicle sustainment contract.	
5. Is work on any part of the vehicle limited in any way by intellectual property rights? If yes, please provide detailed information.	
6. What is the proposed delivery schedule and lead times for the quantity specified in the document?	
7. Canada intends to include <u>Supplemental General Conditions 4006 (2010-08-16)</u> - Contractor to Own Intellectual Property Rights in Foreground Information – in this contract. Please comment on the use of these conditions.	
8. What is your standard warranty in months and/or hours?	
9. What environmental standards or green practices, if any, typically used in this industry?	
10. Please comment on any potential challenges complying with any of the terms and conditions included in the Request for Proposal document.	

Part 5 - Question to Industry - AIRCRAFT DE-ICER / ANTI-ICER

Financial Question Related to the AIRCRAFT DE-ICER / ANTI-ICER

Intent	The purpose of the Snow and Ice Control Capability Recapitalization (SNICCR) question is to request indicative costing information from suppliers in order to allow Canada to prepare its documents for Project Approval. Respondents are asked to provide Rough Order of Magnitude (ROM) pricing for as many questions and activities as possible in this section. If a specific cost element is not provided for any reason (e.g. it is included in the price for another item), please provide an explanation in your response.
Respondant's Information:	
Manufacturer:	
Year and Model:	

Firm Quantity

Item	Description	Purchase	Quantity	Firm unit price
1	AIRCRAFT DE-ICER / ANTI-ICER - Firm Quantity - In accordance with Part 4 - Draft Request for Proposal.			
1.1	3 Wing Bagotville	3	0	
1.2	4 Wing Cold Lake	3	4	
1.3	8 Wing Trenton	3	2	
1.4	14 Wing Greenwood	3	4	
1.5	17 Wing Winnipeg	3	0	
1.6	19 Wing Comox	3	2	
1.7	Any economy of scale for a certain quantity procured?			
2	Integrated Logistic Support (ILS) - Firm Quantity - In accordance with Part 4 - Draft Request for Proposal.			
2.1	Operator's Manuals - Bilingual	4.1.1	12	
2.2	Parts Manual(s) - English	4.1.2	12	
2.2.1	Is the French Manual available? If available provide the cost.		12	
2.3	Maintenance Manuals - English	4.1.3	12	

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2.3.1	Is the French Manual available? If available provide the cost.			
2.4	Warranty Letter	4.2	12	
2.5	Data Summary - Bilingual	4.3.1	1	
2.6	Photographs	4.3.2	1	
2.7	Dimensioned Drawings	4.3.3	1	
2.8	Special Tools List	4.3.4	1	
	Provide the detailed list by following this link.			
2.9	Preventive Maintenance Replacement Parts Kit List (PMRPKL)	4.3.5	1	
	Provide the detailed list by following this link.			
2.10	Recommended Spare Parts List (RSPL)	4.3.6	1	
	Provide the detailed list by following this link.			
2.11	Supplementary Provisioning Technical Documentation (SPTD)	4.3.7	1	
2.12	Initial Parts Kit	4.5	12	
3	Training - Firm Quantity - In accordance with Part 4 - Draft Request for Proposal.			
3.1	Maintenance Training - English	4.6.1	4	
3.2	Maintenance Training - French	4.6.1		
3.3	Operator Training - English	4.6.3	4	
3.4	Operator Training - French	4.6.3		
3.5	Estimated cost for travel and living for the following locations :			
3.5.1	3 Wing Bagotville			
3.5.2	4 Wing Cold Lake			
3.5.3	8 Wing Trenton			
3.5.4	14 Wing Greenwood			
3.5.5	17 Wing Winnipeg			
3.5.6	19 Wing Comox			
4	Extended Warranty Period - In accordance with Part 4 - Draft Request for Proposal.	Months	Hours	Firm Unit Price
4.1	Warranty Period extended to			
4.2	Provide all the different options along with the cost			

Optional Quantity

Item	Description	PD Reference	Up to a quantity of	Firm unit price
5	AIRCRAFT DE-ICER / ANTI-ICER - Optional Quantity - In accordance with Part 4 - Draft Request for Proposal.			

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5.1	Year 1 - First 12-month period from date of contract award	3	4	
5.2	Year 2 - Second 12-month period from date of contract award	3		
6	Integrated Logistic Support (ILS) - Optional Quantity - In accordance with Part 4 - Draft Request for Proposal.			
6.1	Operator Manuals - Bilingual	4.1.1	4	
6.2	Parts Manual(s) - English	4.1.2	4	
6.2.1	Is the French Manual available? If available provide the cost.			
6.3	Maintenance Manuals - English	4.1.3	4	
6.3.1	Is the French Manual available? If available provide the cost.			
6.4	Warranty Letter	4.2	4	
6.5	Data Summary - Bilingual	4.3.1	4	
6.6	Initial Parts Kit	4.3.6	4	
7	Training - Optional Quantity - In accordance with Part 4 - Draft Request for Proposal.			
7.1	Maintenance Training - English	4.6.1	4	
7.2	Maintenance Training - French	4.6.1		
7.3	Operator Training - English	4.6.3	4	
7.4	Operator Training - French	4.6.3		
8	Extended Warranty Period - In accordance with Part 4 - Draft Request for Proposal.	Months	Hours	Firm Unit Price
8.1	Warranty Period extended to			
8.2	Provide all the different options along with the cost			

Additional requested information

9	Fielding support Representative (FSR) (available within 3 working days for locations in Canada, to inspect, repair, test, maintain, equipment, and/or train personnel) - Respondent can provide the total cost or a breakdown by activities or unit prices:	Hourly Rate
9.1	Preventive and corrective maintenance.	
9.2	Pre-delivery inspection.	
9.3	Provide any other related work you can be proposed along with the costing information	
10	Technical Investigation and Engineering Services (TIES)	Hourly Rate

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10.1	Qualified Technicien	
10.2	Engineer	
10.3	Provide any other related labor categories you can be proposed along with the costing information	
11	Additional Work Requirement (AWR)	Hourly Rate
11.1	Qualified Technicien	
11.2	Engineer	
11.3	Provide any other related labor categories you can be proposed along with the costing information	

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Special Tools List

Please provide an itemized list of specific special tools required for the servicing and repair of the vehicle in accordance with the Purchase description section 4.3.4.

Please identify any item with intellectual property along with the availability and the cost of licensing (lump sum or per item).

Item number	Item Name	Part Number	NCAGE	Unit of issue	Quantity recommended per location	Unit Price	IP Right	Cost for licensing
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
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Preventive Maintenance Replacement Parts Kit List (PMRPKL)

Please provide a list detailing the parts that are required to perform preventive maintenance to the system for a period of 24 months in accordance with the Purchase Description section 4.3.5.

Please identify any item with intellectual property along with the availability and the cost of licensing (lump sum or per item).

Item Number	NSN	Item Name	Part Number	NCAGE	Unit of issue	Quantity per equipment	Quantity recommended	Unit Price	IP Right	Cost for licensing
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
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Recommended Spare Parts List (RSPL)

Please provide a list detailing the spare parts deemed necessary to maintain the vehicle for a period of 24 months exclusive of any warranty period in accordance with the Purchase Description section 4.3.6.

Please identify any item with intellectual property along with the availability and the cost of licensing (lump sum or per item).

Item Number	NSN	Item Name	Part Number	NCAGE	Unit of issue	Quantity per equipment	Quantity recommended	Unit Price	IP Rights	Cost for licensing
1										
2										
3										
4										
5										
6										
7										
8										
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Questions

A. Sustainment Requirements	
As critical response equipment, SNIC equipment is required to have an achieved availability of 94% and a reliability of 90.3% at a confidence level of 90%. These availability and reliability targets are applied fleet wide. A sustainment solution will be required to provide in-service support for the Aircraft De-Icer/Anti-Icer vehicles for the life of the equipment (minimum of 15 years after the equipment is in service). Please provide information on how these services can be provided and cost break down based on the following aspects related to sustainment of the vehicles:	
1. Scope of Work:	
(a) Inspection, test, overhaul, repair, and maintenance of Aircraft De-Icer/Anti-Icer vehicles	
(b) Facilities with workshop capabilities to inspect, test, repair, overhaul, and maintain equipment and equipment components.	
(c) Facilities with workshop capabilities for body repairs and paint application.	
(d) Operator and maintenance refresher training, as and when required, covering the safety precautions, trouble shooting, test and adjustment, special tools and test equipment, and safe operation of the apparatus.	
(e) Ensure all repair parts used for the repairs under the contract are the same form, fit, function and quality as the original parts. If the material and/or repair parts are not new production of current manufacture, or is from a source other than the principal manufacturer or its accredited agent, it must be unused and in new condition.	
2. Provision of Spares	
(a) Provide OEM parts to meet DND requirements on an as and when required basis. This arrangement may be used to provide repair parts for emergency and operational deployments for the Canadian Forces.	
3. Field Service Representative (FSR)	
(a) FSR available within 3 working days for locations in Canada, to inspect, repair, test, maintain, equipment, and/or train personnel. FSRs may require security clearance to access restricted areas and airfields.	
4. Technical Investigation Services	
(a) Provide engineering and design work in support of equipment or modifications to the fleet. Work will be completed by a qualified technologist or engineer at either the Contractor's facility or a location identified by DND.	
5. Warranty	

(a) Provide warranty for all work for a period of 6 months where the warranty period will begin on the date of acceptance. The work or any part of the work found to be defective or non-conforming will be repaired at no cost to DND.	
6. Maintenance Data – provide the following maintenance data:	
(a) Mean Time Between Failures (MTBF - years)	
(b) Vehicle Off Road time (VOR – hours)	
(c) Achieved Availability (%) – 94% as set by the operational requirements	
(d) Reliability (%) - 90.3% at a confidence level of 90% as set by the operational requirements	
(e) Work Order Closure Rate (hours)	
(f) Are the availability and reliability targets achievable for the life of the equipment?	
7. Various ILS services – provide the following services:	
(a) Technical publications management and updates	
(b) Configuration management as a result of any design changes	
(c) Spare parts obsolescence management	
(d) Recommendations and plans for life extension R&O activities	
(e) Operator and maintainer training	
(f) Updates to all technical publications throughout the life of the equipment	
(g) OEM approved replacement parts or equivalents	
(h) STTE as required	
B. Technical Questions	
1. Does the proposed vehicle meet the safety standards in section Annex D Para 3.3?	
2. Will a transmission oil cooler be required (Reference Annex D Para 3.9)?	
3. Will a hydraulic oil cooler be required (Reference Annex D Para 3.26)?	
4. What are the back-up camera specs and screen resolution (Reference Annex D Para 3.14 m)?	
5. Is the proposed vehicle able to meet the dimensional and road transport requirements (Reference Annex D Para 3.4.3)?	
6. What is the largest aircraft the proposed equipment can de-ice/anti-ice (Reference Annex C Para 3.4.1 b)?	
7. What material are the fluid tanks made of (Reference Annex C Para 3.16)?	
8. Is an auxiliary engine provided (Reference Annex D Para 3.17)?	
9. Can the aerial boom be used without extending the outriggers/stabilizers?	

10. Is suspension provided on all the axles (Reference Annex D Para 3.11)?	
11. What is the cost for a training simulator for quantity 1 delivered at each location specified in Annex D Para 1.1?	
12. What are the technical specifications of the training simulator?	
C. General	
1. If leasing of SNICCR platform is achievable, please provide detailed annual cost based on the same questions listed under the sections titled "SNICCR vehicles and ILS deliverables" and "Sustainment Requirements".	
2. Any other suggestions or services to be offered for the in-service support of the equipment under the sustainment requirements?	
3. What OEM or sub-contractor support can be provided in Canada for warranty services? Please provide locations.	
D. Draft Request for Proposal	
1. For this type of equipment, Canada normally pays upon equipment delivery. This method of payment is not expected to change after contract award. Do you have any comments with regards to this method of payment?	
2. Canada plans to offer bidders the option of using an exchange rate protection provision for this contract. 2. a) Please comment on whether inclusion of this provision, including whether it will be useful or if there are any potential downsides. 2. b) Would your organization use this provision? 2. c) Canada intends to limit use of this provision only to the vehicles (excluding ancillary items, etc.). Will this create undue risk for potential suppliers?	
3. Canada plans to apply the holdback only to price of the vehicle and not to the total value of the contract. The holdback will be released when all ancillary items are delivered. Please comment on this approach.	
4. a) Will the requirement to provide an SPTD create challenges for the potential suppliers? 4. b) Will the information requested in the SPTD provide enough information to allow Canada to compete a vehicle sustainment contract? 4. c) Please provide any comments or suggestions to ensure Canada can compete a vehicle sustainment contract.	
5. Is work on any part of the vehicle limited in any way by intellectual property rights? If yes, please provide detailed information.	
6. What is the proposed delivery schedule and lead times for the quantity specified in the document?	
7. Canada intends to include <i>Supplemental General Conditions 4006 (2010-08-16) - Contractor to Own Intellectual Property Rights in Foreground Information</i> –	

in this contract. Please comment on the use of these conditions.	
8. What is your standard warranty in months and/or hours?	
9. What environmental standards or green practices, if any, typically used in this industry?	
10. Please comment on any potential challenges complying with any of the terms and conditions included in the Request for Proposal document.	