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LETTER OF INTEREST
LETTRE D'INTÉRÊT

Comments - Commentaires

Vendor/Firm Name and Address
Raison sociale et adresse du
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Issuing Office - Bureau de distribution
Clothing and Textiles Division / Division des vêtements et
des textiles
11 Laurier St./ 11, rue Laurier
6A2, Place du Portage
Gatineau, Québec K1A 0S5

Title - Sujet TRAIL SNOWSHOE - LOI	
Solicitation No. - N° de l'invitation W8486-152613/A	Date 2015-07-13
Client Reference No. - N° de référence du client W8486-152613	GETS Ref. No. - N° de réf. de SEAG PW-\$\$\$PR-760-67651
File No. - N° de dossier pr760.W8486-152613	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2015-09-16	
Time Zone Fuseau horaire Eastern Daylight Saving Time EDT	
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: Richard, Josette	Buyer Id - Id de l'acheteur pr760
Telephone No. - N° de téléphone (819) 956-7288 ()	FAX No. - N° de FAX () -
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: Specified Herein Précisé dans les présentes	

Instructions: See Herein

Instructions: Voir aux présentes

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

Solicitation No. - N° de l'invitation

W8486-152613/A

Amd. No. - N° de la modif.

File No. - N° du dossier

pr760W8486-152613

Buyer ID - Id de l'acheteur

pr760

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

W8486-152613

CCC No./N° CCC - FMS No/ N° VME

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LETTER OF INTEREST (LOI)
FOR THE IMPROVED TRAIL SNOWSHOE (ITS)

1.0 SCOPE

1.1 Purpose

1.1.1 The purpose of this Letter of Interest (LOI) is to inform industry that the Department of National Defence (DND) intends to introduce a new item of winter mobility equipment, namely the Improved Trail Snowshoe (ITS).

1.1.2 This LOI seeks to investigate the following:

1.1.3 What products are commercially available and suitable for use with the military that may be feasible for procurement and delivery within the next two (2) years.

1.1.4 The performance and specific characteristics (and design) of currently available commercial snowshoes; and

1.1.5 An indication of production capabilities and potential unit costs

1.1.6 The results of this LOI shall be to revise the current product performance specification, bid evaluation plan and aid in the purchase of an approximate quantity of 10,000 – 20, 000 pairs of snowshoes (ITS) for military use.

2.0 NATURE OF LETTER OF INTEREST

2.1 This Letter of Interest (LOI) is not a bid solicitation. This LOI will not result in the award of any contract; therefore, potential suppliers of any goods or services described in the LOI should not earmark stock or facilities, nor allocate resources as a result of any information contained in this LOI. Nor will this LOI result in the creation of any source list; therefore, whether or not any potential supplier responds to this LOI will not preclude that supplier from participating in any future procurement. Also, the procurement of any of the goods and services described in this LOI will not necessarily follow this LOI. This LOI is simply intended to solicit information from industry with respect to the contents of this LOI.

2.2 Terminology

2.2.1 The following acronyms are provided for the purpose of this Letter of Interest

2.2.2 CAF - Canadian Armed Forces

2.2.3 DND - Department of National Defence

2.2.4 DSSPM - Director of Soldier Systems Program Management

2.2.5 ITS - Improved Trail Snowshoe

3.0 BACKGROUND

3.1 CAF members who require the capability to move dismounted across a winter environment will be issued with one pair of Improved Trail Snowshoes (ITS). The ITS may be worn for up to 18 hours per day in deep snow and other varying winter climatic conditions. It will be worn in conjunction with all existing winter operational clothing and equipment. As CAF members will be using the ITS for the foreseeable future, integration with the in-service operational Cold Wet Weather Combat Boot (CWWB) and the Extreme Cold Weather Mukluk (ECWM) product improvement is deemed necessary. There is also a potential for the ITS to be worn with the CWWB and an over boot similar to an existing, commercially available product.

4.0 ENVIRONMENT

4.1 The ITS will be used under winter conditions in temperatures that range from -57 degrees Celsius to +5 degrees Celsius, by members of the CF who require the capability to move dismounted over various types of terrain. It will enable troops to operate in a variety of environmental conditions including rain, wet snow, sleet, and wind driven snow.

5.0 PLANNED PROCUREMENT

5.1 The estimated procurement schedule for the ITS is as described in the chart below.

Letter of Interest	July 2015
Request for Proposal (RFP) posted on Buy and Sell.ca	TBD
Award of Contract	TBD
Completion of Delivery of firm Quantities	TBD

6.0 BID EVALUATION METHOD

6.1 Physical samples and test data will be identified as deliverables in the request for proposal (RFP) and evaluated in two (2) phases: 1. Qualification - a physical examination of bidders' samples and accompanying test documentation / data and 2. Technical Performance - three physical performance tests consisting of i. compressive load on decking / frame, ii. tensile load on bindings, and iii. puncture test on decking. The top two Bidders will then proceed to the Phase 3 UAPE to be conducted in the field by Regular Force soldiers. There will be point rated evaluation criteria, established later during the procurement planning stage.

6.2 The physical examination will include; quality of workmanship and construction, review of all accompanying support documentation, certificates of compliance, test reports and a manual physical review of the sample bid snowshoe dimensions.

6.3 The physical performance tests will include the mandatory pass /fail tensile load testing, and the impact /puncture testing of the snowshoe decking material.

6.4 The user acceptance performance evaluation (UAPE) will be undertaken by candidate soldiers at a pre-selected facility who will conduct all associated field evaluation and testing.

7.0 CONTRACT AWARD

7.1 The final score of a bid will be calculated by adding the point rated criteria from the Qualification phase and the Technical Performance phase (Phases one and two), to the point rated criteria in the UAPE phase. The bidders' quotes will be divided by their scores and the lowest quotient will be awarded the contract (Cost per Point method).

8.0 ADDITIONAL QUESTIONS

8.1 Potential suppliers and stakeholders are requested to review and provide feedback / questions for the Technical Performance Specification, Statement of Work, and the User Acceptance Performance Evaluation. In addition please answer the following:

8.2 Does the potential supplier already supply or provide a specific model of snowshoe to other militaries? If so, specify make/model and identify any features.

8.3 What are the potential production rates (by week/month) for a Qty. identified as 10,000 pairs of snowshoes, plus potential option purchases of up to 10,000 pairs during the following three (3) consecutive years?

8.4 Will the potential supplier provide a means for establishing a repair and overhaul line, if so identified and requested by DND? Explain the supplier's capabilities.

8.5 Does the potential supplier provide a warranty on the product and its accessories? Define the applicable coverage.

8.6 Will the potential supplier consider partnering with other industry suppliers if it ensures an overall improved deliverable?

8.7 Will the potential supplier provide information regarding any research or development of future products, including materials, design and fabrication methods?

8.8 Upon examination of the ITS Technical Performance Specification, can the potential supplier offer specific models of product which he/she feels meet or exceed the current performance requirements?

8.9 Will the potential supplier entertain product improvements on specific models, if deemed necessary to meet the identified performance requirements?

8.10 Does the potential supplier have any reservations with the proposed means that DND shall review and evaluate subject bid submissions, including the User Acceptance Performance Evaluation (UAPE) activity? Do they have any addition recommendations which could be considered or addressed by the Technical Authority?

8.11 Will the potential supplier entertain new technologies with respect to materials, processes and components utilized in the manufacturing of snowshoes?

8.12 Will potential suppliers also include their operating manuals, parts lists or available options and accessories for the various models they deem appropriate? They may also include a complete sample, catalogue, website information, or listing of current product and any future product they may want the crown to consider.

8.13 Is three months a reasonable time to have the RFP available to Industry on the Buy & Sell site?

8.14 A Bidder's Conference is a presentation to potential Bidders, of what DND would like to purchase, what it will be used for, and what sort of performance is expected. Any questions that were sent to DND via Buy & Sell will be answered and also posted on Buy & Sell. The Conference ensures that all potential bidders receive the same information at the same time. If so decided, does a Bidders' Conference approximately one month after RFP is on Buy & Sell, sound like correct timing; should it be sooner, or later than one month?

8.15 Provision of Certificates of Compliance (C of C's) and accompanying Test Reports will be part of the bidding process. DND is interested in the following snowshoe characteristics: maximum compressive load the snowshoe decking / frame can support, tensile strength of the bindings, puncture resistance of decking material. If bidders wish to perform their own in-house testing, how much time approximately, would they need to provide such technical information?

8.16 Once a contract is awarded, how much time would be needed to send a pre-production sample to DND?

8.17 Please provide any other feedback / criticisms to activities / timelines that we may have overlooked in this LOI.

8.18 Potential suppliers are encouraged to draft a list of pertinent questions involving this activity. Please refer to the section detailing the format for responses included in this LOI.

9.0 RESPONSES

9.1 Instructions

9.1.1 Suppliers are requested to submit commercially available samples. It is anticipated that commercially available designs may not meet all of the requirement criteria outlined in the associate documents supplied as Annexes. Suppliers must note that the requirements will be validated, and as such, may be revised and are subject to change.

9.2 Responses

9.2.1 Suppliers are requested to submit a written response to the identified contact and delivery address below by the closing date of this Letter of Interest (LOI). It is expected that responses may include commercial brochures, product data, and supporting test results supporting any current claims along with the following:

9.2.1.1 Respondent's name, contact information and return address;

9.2.1.2 Literature or a reference to a website with general information about the Respondent and their products;

9.2.1.3 The name and/or product number of the product(s) being proposed by the Respondent (more than one product proposal may be submitted by each Respondent);

9.2.1.4 Does the product(s) proposed comply with the Canadian Content Policy?
(<http://buyandsell.gc.ca/policy-and-guidelines/supply-manual/annex/3/6>)? Yes or No;

9.2.1.5 A synopsis that explains how the product(s) proposed comply with the requirements outlined in Annex A; and

9.2.1.6 An indicative price and availability including;

- Estimated production rates; and
- Minimum production of each product (s)

9.2.2 Answers to questions in Paragraph 8.0

9.3 Format

9.3.1 Written responses must be submitted in two (2) hard copies only. Responses may be submitted in either or both official languages.

9.4 Samples

9.4.1 Respondents may include product samples with their written response to help communicate the features of their product(s); however the Government of Canada will not assume any liability for samples, nor compensate Respondents for the value of the samples, or the cost of shipping them. Samples should be individually marked with the name and contact information of their supplier.

9.5 Delivery Address

9.5.1 Responses are not considered bids, however, responses shall be sent to the Public Works and Government Services Canada (PWGSC) Bid Receiving Unit at the following address:

Bid Receiving Unit
Public Services and Government Services Canada
Place Du Portage
Level 0A1, Phase III
11 Laurier Street
Gatineau, Quebec, K1A 1C9

9.6 Usage

9.6.1 Responses and product samples will not be formally evaluated, however, they may be used by DND to develop a future performance specification. All responses and samples received by the LOI closing date will be reviewed by DND. DND may, at its discretion, review responses and samples received after the closing date. Written responses to this LOI will not be returned. Product samples may be returned, at DND's discretion and if requested by their provider accordingly.

9.7 Costs

9.7.1 The Government of Canada will not reimburse any Respondent for expenses incurred in responding to this LOI.

9.8 Parameters

9.8.1 Respondents are reminded that this LOI is not a Request for Proposal. In that regard, Respondents should feel free to include any comments or concerns with their responses. Canada reserves the right to seek clarification from a Respondent on information provided in response to this LOI, either by telephone, in writing, or in person.

9.9 Confidentiality

9.9.1 The confidentiality of each Respondent will be maintained. Respondents are requested to clearly identify portions of their response that are proprietary. Items that are identified as proprietary will be treated as such except where Canada determines that the item is not of a proprietary nature.

9.10 Enquiries

9.10.1 Enquiries regarding this LOI shall be directed to the LOI Authority. Enquiries received after the 15 days before the closing date of this LOI may not be answered. Because this is not a bid solicitation, the Government of Canada will not necessarily respond to all enquiries in writing, nor circulate all answers to industry. However, in the event that answers are circulated, Enquirers should clearly identify portions of their questions that are proprietary in nature. Canada may edit the questions or request that the Enquirer do so, so that the proprietary nature of the question is eliminated, and the enquiry can be circulated to industry.

9.11 LOI Authority

9.11.1 Government Services Canada is responsible for the management of the LOI process. The PWGSC contact and LOI Authority for this is:

Josette Richard

Supply Specialist

Clothing and Textile Division

Public Works and Government Services Canada

11 Laurier Gatineau, Québec, K1A 0S5

Email : josette.richard @tpsgc-pwgsc.gc.ca

Telephone (819) 956-7288

Facsimile (819) 956-5454



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TECHNICAL PERFORMANCE SPECIFICATION FOR THE IMPROVED TRAIL SNOWSHOE

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0.0 LIST of APPENDICES

A. Technical Details for the CAF in-service Snowshoe;

B. Technical Details for the ITS Ease of Detection;

C. Technical Details for the CAF in-service Load Carriage Equipment;

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D. Allied Environmental Conditions and Test Publication, AECTP-230;

E. Technical Details for the CAF in-service Winter Operational Footwear;

F. CF Primary Means of Tactical Transportation;

G. Technical Details for the CAF Winter Operational Hand wear;

H. Technical Details for the CAF in-service Multi-tool;

I. CAF Common Petroleums, Oils, Lubricants and Chemicals

1.0 SCOPE

1.1 Purpose.

1.1.1 This specification covers the requisite technical performance requirements for the Improved Trail Snowshoe (ITS), utilized by the Canadian Armed Forces and worn while conducting patrols and other designated CAF winter operations.

1.2 Concept of Operations.

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1.2.1 Each Canadian Armed Forces (CAF) member who needs the capability to move dismounted across a snowy winter environment will be issued with one pair of ITS. The ITS may be worn for periods of up to 18 hours or more per day under constant deep snow conditions. They will be worn in conjunction with all existing winter operational clothing and equipment. Integration with the in-service Extreme Cold Weather Mukluk, (ECWM), the Cold Wet Weather Boot, (CWWB), the Land Operational Temperate Boot (LOTB), and a proposed Tactical Field Over Boot (TFOB), is paramount because CAF members will be using these items of footwear for the foreseeable future.

1.3 Key Tasks.

1.3.1 The ITS must allow the soldier to perform mission essential tasks without any degradation that would compromise the successful completion of those tasks. The following table is a prioritized list of tasks for the Canadian Armed Forces soldier. The capability of performing these critical tasks will provide significant validation for the performance of tasks for other CAF classifications operating with the ITS:

Priority	Description	Task
1	Tasks primarily related to immediate combat or the preparation for immediate combat.	a. Fight at close quarters b. Adopt fire positions c. Move undetected d. Prepare defensive positions e. Over come obstacles f. Employ camouflage

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2	Tasks related to planning/logistic preparation and operations other than war.	a. Determine location and bearing b. Emplace obstacles c. Gather tactical information d. Prepare reports e. Move cross country (13km) f. Communicate g. Participate in operations other than war h. Mount/dismount tactical transport (ground and air) i. Participate in CBRND operations
3	Tasks primarily related to sustainability	a. Carry heavy loads b. Set-up/operate equipment and camp c. Maintain/repair equipment d. Employ survival techniques e. Administer medical first aid f. Prepare and consume nutrition g. Pull toboggans h. Rest and conduct personal hygiene

Table 1- Key Tasks

1.4 Environment

1.4.1 The ITS will be used under all winter conditions by every member of the CAF who needs this capability. Appendix D refers, (NATO Allied Environmental Conditions and Test Publication, AECTP-230, (Edition 1), LEAFLET 2311/1, C0 to C4 Climatic Categories)

1.5 Search Terms

1.5.1 Snowshoes, snowshoeing, winter footwear, over-snow equipment, winter mobility, winter transportation, winter sports, winter recreation, snow hiking, cold weather, arctic, native transportation, snow sports, army winter operations, assault snowshoes, winter warfare.

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1.6 Technical Authority

1.6.1 The Technical Authority is the Government agency responsible for all of the technical aspects and requirements identified in this specification and any changes to them. The Technical Authority for this specification is:

Directorate of Soldier Systems Program Management (DSSPM)

Department of National Defence

101 Colonel By Drive

Ottawa, Ontario

Canada K1A 0K2

Attention: DSSPM 3

1.7 Terminology

- | | | |
|-------|------|--|
| 1.7.1 | ITS | - Improved Trail Snowshoe |
| 1.7.2 | CAF | - Canadian Armed Forces |
| 1.7.3 | CWWB | - Cold Wet Weather Boot |
| 1.7.4 | ECWM | - Extreme Cold Weather Mukluk |
| 1.7.5 | NATO | - North Atlantic Treaty Organisation |
| 1.7.6 | DND | - Department of National Defence |
| 1.7.7 | UAPE | - User Acceptance Performance Evaluation |

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- 1.7.8 C of C - Certificate of Compliance/Conformance
- 1.7.9 CADPAT (WO) - Canadian Disruptive Pattern, Winter Operations
- 1.7.10 QA - Quality Assurance
- 1.7.11 STANAG - Standardization Agreement, NATO
- 1.7.12 DSSPM - Director Soldier Systems Program Management
- 1.7.13 TA - Technical Authority
- 1.7.14 CBRND - Chemical Biological Radiological Nuclear Defence

1.8 Reference Documents (supplied)

- a) NATO Allied Environmental Conditions and Test Publication, AECTP-230;
- b) Specification for CADPAT (WO), DSSPM 2-2-80-502,2010-05-13;
- c) Minimum Requirements for Mfr.'s Standard Pack, D-LM-008-036/SF-000.

2.0 PERFORMANCE REQUIREMENTS

2.1 Main Requirements.

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2.1.1 The ITS must be capable of meeting all or as many of the identified requirements as possible, without compromising the soldier while performing his or her key tasks (Ref. Para 1.3).

2.1.2 These requirements have been placed into 5 categories which are;

2.1.2.1 A - General Design;

2.1.2.2 B – Mobility;

2.1.2.3 C – Durability;

2.1.2.4 D - Fit and;

2.1.2.5 E – Maintenance.

2.2 A - General Design Requirements

2.2.1 A1 - The ITS must be capable of supporting a total load, weighing up to 160 kg (355 lbs.), while walking through deep snow on any type of terrain, during all identified cold weather winter conditions

2.2.2 A2 - The ITS must occupy an equal or smaller physical footprint than the in-service CAF snowshoe. (Appendix A).

2.2.3 A3 - The ITS must have an overall mass equal to or less than the in-service CAF snowshoe. (Appendix A).

2.2.4 A4 - The ITS design must not increase the ease of detection of the CAF wearer. This applies both visually and aurally (Appendix B).

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2.2.5 A5 - The ITS must meet NATO STANAG 2835 for UV reflectance iaw. CADPAT (WO), white colour for the camouflage of military equipment in a winter, snowy environment. (Appendix B).

2.2.6 A6 - The ITS must be compatible with all items of a CAF member's load carriage equipment and shall not injure the wearer or damage any load carriage items while used in conjunction. (Appendix C).

2.2.7 A7 - The ITS and all components, must be suitable for operational use in all climatic configurations identified in NATO Allied Environmental Conditions and Test Publication, AECTP-230, (Edition 1), LEAFLET 2311/1, May 2009, C0 to C4 Climatic Categories) (Appendix D).

2.2.8 A8 - The ITS must accommodate all sizes of the in-service CAF cold wet weather boot (CWWB) and the in-service CAF extreme cold weather mukluk (ECWM). The ITS must have provision for the accommodation of non-standard CAF members sizes of winter commercial footwear (Appendix E).

2.3 B - Mobility Requirements

2.3.1 B1 - The ITS cannot hinder the ingress/egress of any CAF member from primary means of CAF tactical transportation while being carried. (Appendix F).

2.3.2 B2 - The ITS, while maintaining stability must provide minimal resistance to the wearer while moving forward, backwards or laterally, in a variety of winter climatic conditions and terrain.

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2.3.3 B3 - The ITS must provide sufficient traction to prevent slipping while traversing over uneven ground, climbing or descending hills or when crossing obstacles.

2.3.4 B4 - The ITS must not allow the accumulation of water, snow, ice or slush while in use.

2.3.5 B5 - The ITS binding system must not break or become loose while in use.

2.3.6 B6 - The ITS must provide the ability for the users to adopt the prone position while providing lateral support.

2.4 C - Durability Requirements

2.4.1 C1 - The ITS must provide a minimum continuous service life of 8 months under normal CAF use.

2.4.2 C2 - The ITS and all components must not corrode, oxidize or fail prematurely during its service life.

2.4.3 C3 - The ITS must not absorb any moisture when in normal use.

2.4.4 C4 - The ITS must be resistant to Petroleum, Oils and Lubricants (POL's), cleaning solvents, sweat, salt, insect repellent (DEET) and Reactive Skin Decontaminant Lotion (RSDL). (Appendix I).

2.4.5 C5 - The ITS must be resistant to the growth of fungus and moulds.

2.4.6 C6 - The ITS finish must not flake, peel, crack or scrape off easily.

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2.4.7 C7 - The ITS must resist puncture, denting, abrasion, while used on a variety of surfaces, including asphalt paving, unpaved gravel, rocks, damp ground, and sand.

2.4.8 C8 - The ITS must retain the capacity for donning /doffing of up to 10 times in a 24 hour period without failure.

2.5 D - Fit Requirements

2.5.1 D1 - The ITS must be supplied in a one size dimension, for all CAF users.

2.5.2 D2 - The ITS binding must accommodate all identified CAF winter footwear. (Appendix E).

2.5.3 D3 - The ITS and its binding system must be capable of accommodating donning/doffing by the wearer in under 30 seconds.

2.5.4 D4 - The ITS and its binding system, upon final adjustment, must not become loose or break during use.

2.5.5 D5 - The ITS must be capable of adjustment with normal in-service winter hand wear. (Appendix G).

2.6 E - Maintenance Requirements

2.6.1 E1 - The ITS must be able to be cleaned with a brush and water at the first line level .

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2.6.2 E2 - The ITS binding system, and /or spare parts must be capable of being replaced in the field, with the issued CAF Multi-tool, in under 15 minutes, by the wearer. There must be no unique or custom tools required. (Appendix H).

2.6.3 E3 - The ITS must be supplied with Qty.1 spare binding / parts kit, for a first line level of repair.

2.6.4 E4 - The ITS must be issued with a bilingual, English/French, operation and parts manual.

3.0 MARKINGS

3.1. NATO Stock Number (NSN) – 8465-XX-XXX-XXXX

3.1.1 The NSN shall be the prime identifier for the ITS and it must be located on the upper surface/decking of the snowshoe in a conspicuous area to facilitate easy identification.

3.1.2 The NSN may be applied to the decking with a metal or polymeric ID plate which is securely fastened to the decking material, or it may be applied via indelible black ink or other suitable transfer printing method, which resists smearing, running, fading, etc.

3.2 Item Identification / Name

3.2.1 The NATO recognized short name of the item in English and French Format shall be: "Snowshoe, Trail /" Raquette de Piste", must be applied to the second line of the ID plate or printed text (Provided by DND).

3.3 Manufacturer's Identity

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3.3.1 The name of the manufacturer and / or their identification LOGO / Identity / Trade Mark, must be located on the third line of the ID plate or printed text.

3.4 Manufacturing Data

3.4.1 The date of manufacture, batch and /or Lot number must be located with either the fourth or fifth line of information the ID plate or printed text. Format shall be; "DATE: <YYYY>-<MM>".

3.5 Contract Number

3.5.1 The contract number must be located on the fifth and final line of the ID plate or printed text. Format shall be: "CONTRACT / CONTRAT: <XXXX>-<XXXXXX/X>".

3.6 Identification Plate

3.6.1 Dimensions

3.6.1.1 If utilising an identification plate, the final finished dimensions must not exceed 1.00 "(2.5 mm) height x 3.00" (7.6 mm) length x 0.63" (0.16 mm) thick. There must be no sharp edges or corners. The ID plate must be located in a position on the snowshoe where there will be no entrapment of slush, ice, snow etc. Text characters may be stamped, printed, and/or embossed and must be of a contrasting colour to the plate material itself and clearly legible.

3.6.2 Text Characters

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3.6.2.1 Plain block lettering must apply to all characters and all text must be located at least 5 mm in from any edge. All text must be coherently organized and cleanly aligned in an efficient and uncongested manner. All lines of text must be of the same scale with the exception of the top line, NSN which must be 1.5 times the scale of the remainder of the text.

3.6.3 Text Colour

3.6.3.1 Whether utilising an identification plate or printed text the colour of the characters must be a non- gloss/flat black or as per the grey colour identified in the reference specification for CADPAT™ (WO), Canadian Disruptive Pattern Winter Operations. (DSSPM 2-2-80-502), 2010-05-13. Refer to Appendix B.

3.6.4 Sample ID Plate

NSN/NNO 8465-XX-XXX-XXXX
SNOWSHOE TRAIL/ RAQUETTE DE PISTE
Mfr.'d by /Mfr.'d par XXXXXXXXX
W8486- XXXXXXXX

3.7 Printed Text

3.7.1 Printed text must occupy an area which is identical and/or no larger than the maximum size of the ID plate, as per Para 3.6.1. It must be located on the upper surface of the snowshoe decking in a conspicuous area where there must be no contact from any binding or footwear and is plainly visible to the wearer. All marking information must be as identified in Para. 4.1 and Text Characters and Colour must be as per Paras. 3.6.3 and 3.6.4.

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3.7.2 Marking Review

3.7.2.1 ID plates and printed text samples must be submitted for review to the Technical Authority prior to any final production of said items or process. Suitable formats include a final physical ID plate or an electronic copy depicting final version.

4.0 INSTRUCTION MANUAL

4.1 General

4.1.1 The ITS must include a hard copy illustrated Instruction Manual that identifies all important components of the system and explains how they are designed to be used and cared for. The Instruction Manual must also highlight potential hazards associated with the use and/or care of the system, and must recommend actions to prevent and/or mitigate such hazards.

4.1.2 The Instruction Manual must present the above information in English and French as approved by a translation services provider certified to CAN/CGSB-131.10-2008.

4.1.3 The Instruction Manual must be packaged with each pair of ITS. It must be capable of being folded and stowed in an individual's pocket for reference and it must be plastic coated or printed on a fabric such as Tyvek or other similar lightweight polyethylene synthetic material which is durable and waterproof capable. Any text and characters must be printed in indelible ink and must be coherently organized and cleanly aligned in an efficient and uncongested manner.

4.2 Manual Format

4.2.1 There must be an instruction manual submitted for review to the Technical Authority prior to any final production of contracted quantities and it must be supplied in both electronic and final printed current PDF version formats.

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5.0 SPARE PARTS KIT

5.1 General

5.1.1 Each ITS spare parts kit must be capable of allowing the user to effect a 100% complete replacement of the ITS binding assembly. The kit must be capable of being utilised for either a “left” or a “right” designated ITS if there is such a differentiation and thus contain all necessary components and hardware accordingly. The kit must be packaged in a suitably heavy gauge polyethylene plastic bag, and labelled with the appropriate NSN as provided by the DND Technical Authority. There must be no shelf life assigned to the ITS spare parts kit.

6.0 PACKAGING & PACKAGE MARKING

6.1 General

6.1.1 Unless otherwise specified in Solicitation documents, Packaging and Package Labelling will be in accordance with D-LM-008-036/SF-000, Department of National Defence Minimum Requirements for Manufacturer's Standard Pack. Each pair of ITS must be packaged separately, in a suitably sized clear polyethylene bag. Each package must have affixed to its outside surface a self adhesive label which must be marked with all of the respective ITS identification information listed in Para 3.

6.1.2 Qty.1 Instruction Manual must be packaged with each pair of ITS.

7.0 QUALITY ASSURANCE

7.1 Quality Assurance Authority

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7.1.1 The Quality Assurance Authority is the government agency responsible for providing assurance that the material and services supplied by the Contractor conform to the specified requirements. The Quality Assurance Authority is the Director General Quality Assurance (DGQA).



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ANNEX B
To: W8486-152613

DIRECTORATE OF SOLDIER SYSTEMS PROGRAM MANAGEMENT



STATEMENT OF WORK For IMPROVED TRAIL SNOWSHOE



1.0 SCOPE

1.1 Purpose

- 1.1.1 This document describes the contract requirements to supply the Department National Defence with the Improved Trail Snowshoe.

1.2 Background

- 1.2.1 DSSPM 3 has been asked to embark on a product improvement for the current in-service bear paw style, magnesium army snowshoe. It was introduced in the early 2000's and has been procured in limited quantities due to features or lack thereof, which degraded its performance, namely its size and weight, and its ability to provide the wearer a good degree of traction upon certain surfaces. DSSPM under DLR's direction is now seeking a suitable replacement, from commercial sources, which shall meet the SOR generated in June 2013.

1.3 Terminology

- 1.3.1 C of C.....Certificate of Compliance/conformance;
- 1.3.2 DLR.....Director Land Requirements;
- 1.3.3 DND.....Department of National Defence;
- 1.3.4 DSSPM.....Director Soldier Systems Program Management;
- 1.3.5 ITS.....Improved Trail Snowshoe;
- 1.3.6 TA.....Technical Authority.

2.0 APPLICABLE DOCUMENTS

- 2.1 The following are applicable to this SOW:
 - 2.1.1 Technical Specification for ITS, Annex B;
 - 2.1.2 ITS Bid Evaluation Plan, Annex C; and
 - 2.1.3 ITS Technical Performance Evaluation Matrix, Appendix 1 to Annex C;

3.0 REQUIREMENTS

3.1 Tasks



3.1.1 Tasks are organized in two phases: Pre-Production and Production.

3.1.2 Pre-Production

3.1.2.1 Prior to Production winning bidder must confirm ability to produce ITS in accordance with Annex B para 2.0 by providing Pre-Production Deliverables in accordance with the requisition.

3.1.3 Production

3.1.3.2 Upon the Technical Authority's written approval of the Pre-Production Deliverables, the Contractor must provide all Production Deliverables in accordance with the requisition.

3.1.3.3 The Contractor must also provide a quantity of spare bindings / parts / instruction manuals in accordance with the requisition.

3.1.3.4 Spare bindings/parts must be packaged separately from ITS.

4.0 DELIVERABLES

4.1 Pre-Production Deliverables

4.1.1 The Contractor must deliver the following pre-production deliverables:

4.1.1.1 One pair of ITS;

4.1.1.2 One spare parts kit;

4.1.1.3 One bilingual Operation and Maintenance Manual.

4.1.2 Evaluation Of Pre-Production Deliverables

4.1.2.1 The pre-production samples will be evaluated by the DND Technical Authority based on a visual and physical examination, and the confirmation of C of Cs provided by the contractor;

4.1.2.2 The pre-production sample must meet all mandatory requirements.

4.2 Production Deliverables

4.2.1 The Contractor must provide the following IAW Annex B.

4.2.1.1 20,000 pairs of ITS assemblies (snowshoes, bindings, instruction manuals);



4.2.1.2 XXXX pairs of spare bindings;

4.2.1.4 XXXX spare parts kit; and

5.0 PRODUCTION OR DESIGN DEVIATIONS

- 5.1 Following Pre-Production approval, whenever the Contractor intends to deviate from the contracted deliverable, whether it be a source of supply or method of production, the Contractor must provide all applicable Pre-production Deliverables in accordance with Para 4. These applicable Pre-production deliverables must be approved by the DND Technical Authority in writing, prior to any of the goods or services of the new supplier being utilised in this contract. In the case of uncertainty, the Contractor must consult the Technical Authority, prior to any change in the finished product. Consultation may include the Contractor supplying new samples and the requisite C of C's accordingly for review and approval.
- 5.2 The Government reserves the right to perform inspections and tests, where deemed necessary, to ensure supplies and services meet the specified requirements.

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ANNEX C
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**DIRECTORATE OF SOLDIER SYSTEMS
PROGRAM MANAGEMENT**



**USER ACCEPTANCE PERFORMANCE EVALUATION
For The
IMPROVED TRAIL SNOWSHOES**



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IMPROVED TRAIL SNOWSHOE **USER ACCEPTANCE PERFORMANCE EVALUATION PLAN**

1. PURPOSE

- 1.1 Purpose of the UAPE is to outline how soldiers will use the compliant bidders' snow shoes in a field environment to evaluate their performance. The scores from the questionnaire will be added to the points rated scores from the Phase I Qualification, and Phase II Technical Lab Testing. This shall result in a final overall score for each pair of compliant bidder snowshoes.

2. CONCEPT OF OPERATIONS:

- 2.1 Duration of trial will be (two days per bidder) + 1(to test baseline shoe)
- 2.2 DND staff consisting of a Human Factors Advisor (HFA), Deputy Human Factors Advisor, and Human Factors Officers (HFO's).
- 2.3 Evaluators will consist of a sample of thirty (30) CAF members.
- 2.4 The current in-service snowshoe will be used as the baseline against which bidders' snowshoes will be compared.
- 2.5 Thirty (30) pairs of snow shoes and five (5) spare parts kits will be required from each bidder selected to take part in the UAPE.
- 2.6 Evaluators will have the following body dimensions measured and recorded: 1) height; 2) weight; 3) boot size
Footwear for the UAPE will consist of the Extreme Cold Weather Mukluk (ECWM) and the Cold Wet Weather Boot (CWWB). The footwear to be worn at any particular time will be determined by the HFO.
- 2.7 Snowshoe performance will be evaluated through the use of a questionnaire that will be completed by the evaluators.
- 2.8 At least 70% of UAPE participants rate the Snow Shoe as acceptable.



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3. **METHOD**

3.1 **Static Test Stands**

3.1.1 Ten test stands will be used to assess the performance of the Baseline In-service snowshoes (first) followed by each of the candidate snowshoes. A description of each test stand is as follows:

3.1.2 Anthropometric Measures

3.1.2.1 The following body measurements will be taken from all UAPE evaluators:

3.1.2.2 boot size (CWWB) and ECWM);

3.1.2.3 height;

3.1.2.4 weight.

3.1.3 Noise Detection

3.1.3.1 Evaluators will be paired off. Number one remains in place while number two walks in a straight line until he can no longer be heard by number one. This distance is then measured and recorded.

3.1.4 Visual Detection

3.1.4.1 Compliant bidder's snowshoes will be placed at various heights and predetermined distances from a reference point. Evaluators shall attempt to visually locate the snowshoes; the distance to the first unobservable (or last observable) shoe shall be recorded.

3.1.5 Vehicle Compatibility

3.1.5.1 Section size group of evaluators carrying snowshoes, mount-up Light Armoured Vehicle (LAV) and take up positions as if for transport. Group then dismounts.

3.1.6 Load Carriage Compatibility

3.1.6.1 In separate tests, evaluators will attach, march a predetermined distance, then stop and detach snowshoes from the following:

3.1.6.2 Rucksack;



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3.1.6.3 Patrol Pack;

3.1.6.4 Evaluators will sling snowshoes over either shoulder, then march a predetermined, round trip distance;

3.1.6.5 A predetermined distance, roundtrip, weighted (50lbs) toboggan pull while wearing snowshoes will be performed by evaluators.

3.1.6 Movements Wearing Snowshoe

3.1.6.1 Perform a Box Step on level ground.

3.1.6.2 Cross a log obstacle.

3.1.7 Donning / Doffing

3.1.7.1 With bare hands and wearing Full Fighting Order (FFO), evaluator is timed while donning a pair of snowshoes. With bare hands and wearing FFO, evaluator is timed while donning a pair of snowshoes at night.

3.1.8 Binding Adjustment / Replacement

3.1.8.1 With bare hands bindings are loosened to maximum extent, and then retightened to original adjustment. Stopwatch timed.

3.1.8.2 Bare hands; replace binding of a single snowshoe. Stopwatch timed.

3.1.9 Glove Compatibility

3.1.9.1 With gloved hands, Cold Wet Weather Glove, and wearing FFO, evaluator is timed while donning a pair of snowshoes.

3.1.9.2 With gloved hands, bindings are loosened to maximum extent, and then retightened to original adjustment. Stopwatch timed.

3.1.10 Hill Climb

3.1.10.1 Walk up a steep hill (45 °gradient) and walk back down

3.1.11 Prone

3.1.11.1 From standing position wearing FFO, evaluator adopts prone position and points weapon at target downrange. Height of shoe above snow level is



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measured and recorded. Standing position is again resumed with weapon pointed at target downrange. Both parts of procedure are timed / recorded.

3.1.12 Moisture Retention

3.1.12.1 Walkthrough a prepared slush mix, then evaluator clears snowshoe upon exiting.

3.1.12.2 Snowshoes weighed at start of Battle Day and again at Battle days end after snow cleared by immersing in water and clearing with a brush.

3.1.13 User Manual

3.1.13.1 Manual is comprehensive and easy to understand.

3.2 Dynamic Test Stands

3.2.1 Toboggan Compatibility

3.2.1.1 A toboggan team will pull a fully loaded toboggan over deep snow. This will include walking in a straight line, walking in a curved line, and turning sharply (90°).

3.2.2 Battle day

3.2.2.1 Dismount from Light Armoured Vehicle (LAV).

3.2.2.2 Dismount from LAV, pursue enemy and perform section attack.

3.2.2.3 Cross log obstacle and ditch.

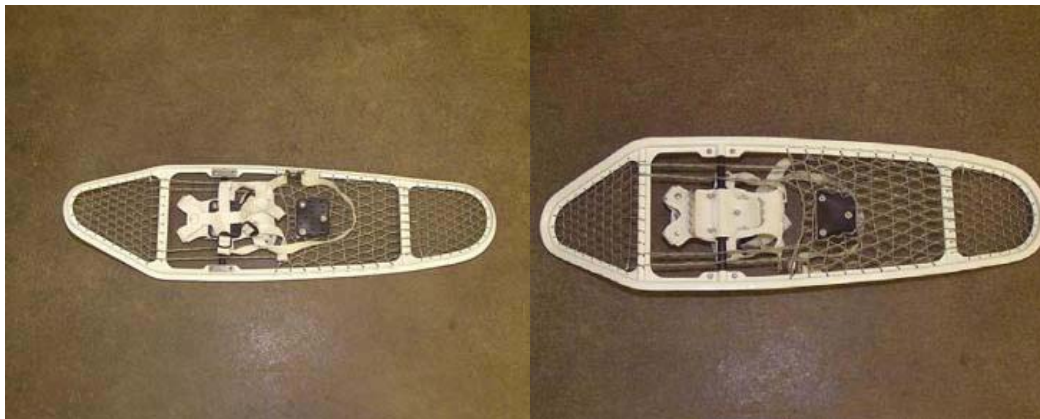
3.2.2.4 Evaluators adopt prone position during section attack.



Appendix A
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TECHNICAL DETAILS FOR THE CAF IN - SERVICE SNOWSHOE

NATO Stock Number (NSN)
8465-20-002- 2545



Top view

Bottom View

1.0 CHARACTERISTICS

1.1 Physical Characteristics

1.1.1 Overall Length - 973 mm

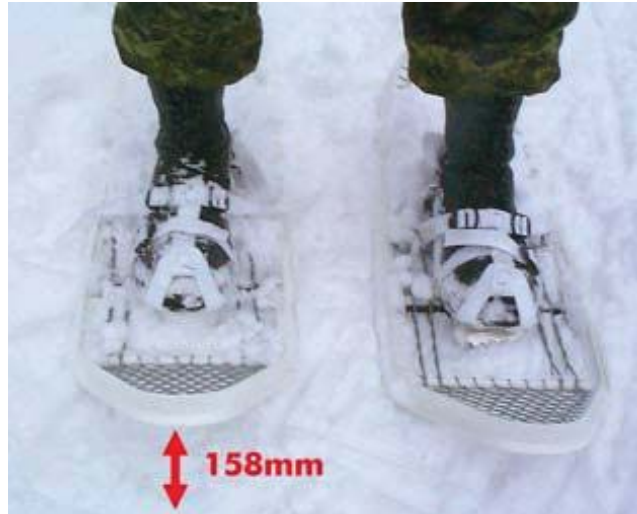
1.1.2 Overall Width - width (max.) at center pivot bar – 282 mm

1.1.3 Overall Height - at front – 158 mm
- at rear – 78 mm

1.1.4 Total Mass (with bindings) pair – 3.2 kg.



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Front View



Rear View



Appendix A
To: W8486-152613

1.2 Material Characteristics:

1.2.1 The current snowshoe is constructed from AM060B magnesium alloy, offering increased corrosion resistance and high strength to the frame design. The frame is laced with high tensile galvanised steel wire, coated in a nylon resin. Front and rear crampons are constructed from 5052-H32 Aluminum alloy. The entire frame assembly is pre-treated with a white epoxy primer and finished with a compatible polyester powder - coated paint.

1.3 Operational Characteristics:

1.3.1 The current snowshoe has been designed to accommodate the in-service cold wet weather combat boot and the in-service mukluk. It is capable of operating in all winter climatic conditions found in Canada in accordance with NATO STANAG 2895, (C1 to C5 Climatic Categories, - 6 to -57C).



Appendix B
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TECHNICAL DETAILS FOR THE ITS EASE OF DETECTION

1.0 INTRODUCTION

1.1 ITS project interdependencies require the ITS design and operation to not increase the ease of detection of the wearer, both visually and aurally.

2.0 DESCRIPTION

2.1 Visually

2.1.1 The ITS shall be used in conjunction with other operational items, predominantly in a temperate woodland's winter environment. For this reason, the CAF has developed a camouflage pattern identified as CADPAT (WO) which meets a specific NATO STANAG 2835 for UV reflectance. This CADPAT pattern may be applied to soft goods such as fabrics, webbing and textiles, and also to finished hard goods including surfaces requiring painting etc. It is expected that for as many of the ITS soft components as possible, including decking, webbing, bindings systems etc. either meet or exceed the CADPAT(WO) requirements for colour and UV reflectance as well as the final surface finish for the frame. Other subcomponents should either meet these similar requirements or come as close to possible for the grey or white colours in the CADPAT (WO) identified specification. DSSPM 2-2-80-502, 2010-05-13 refers. (attached)

2.2 Aurally

2.2.1 The ITS shall not increase the aural detection of the wearer while in use. The ITS and its components including the frame, decking, binding and associated hardware shall be designed to eliminate excessive noises including, squeaks, snaps, rattling, and vibration, while traversing surfaces normally associated with winter warfare operations. Terrain includes but is not limited to asphalt, cement, rocks, bush and branches, gravel, soft dirt, mud, grass, snow (packed and soft), slush and ice.



Appendix C
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TECHNICAL DETAILS FOR THE CAF IN - SERVICE LOAD CARRIAGE EQUIPMENT

1.0 DESCRIPTION

1.1 CAF Rucksack

1.1.1 Each dismounted infantry soldier is issued a load carriage system which allows personnel to safely stow and transport their personal issue items, ammunition and rations wherever they have been designated to operate. The prime item of load carriage is the CAF Rucksack. It is available in 4 sizes to accommodate the individual's sizing.



1.2 Technical Description:

1.2.1 RUCKSACK, INTERNAL FRAME, CADPAT (TW), 1000 DENIER, HIGH TENACITY NYLON (DSSPM 2-2-80-211); DRAW STRING AND BUCKLE CLOSURE, AVAILABLE IN SMALL, MEDIUM, LARGE AND X LARGE SIZES.



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1.3 CAF Field Pack:

1.3.1 When needs dictate an individual to carry a lighter load, the soldier may use their issued smaller Field Pack. It consists of the following:



1.4 Technical Description:

1.4.1 FIELD PACK CADPAT (TW), LOAD CARRYING ASSEMBLY; CONSISTING OF SMALL PACK 8465-20-004-8329; SHOULDER HARNESS, SPECIFY SIZE REQUIRED, DETACHABLE ACCESSORY POUCHES, TWO REGULAR ACCESSORY POUCHES 8465-20-000-3830, ONE QUAD FANNY POUCH 8465-20-000-4055, ONE REGULAR FANNY POUCH 8465-20-000-3829



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2.0 SNOWSHOE / ITS ATTACHMENT

2.1 The normally accepted means for personnel to carry their issued snowshoes is through the attachment of the webbing loops on the rucksack/field pack, and /or by utilising elastic cord(s) and /or webbing and securing the snowshoes tightly against the outer surface. Consideration shall be made for a possible textile /fabric sleeve or carrier which shall prevent any sharp metal edges, crampons etc. from damaging other load carriage items and for the protection of the personnel while transporting and handling complete load carriage/ITS loads in and out of CAF military transportation.

2.2 Any ITS fabric carrier shall be constructed of materials, robust enough to ensure that the ITS is protected during transport and that any sharp metal edges do not pose a hazard. Any fabric construction shall have to meet the requirements of CADPAT (WO) for colour and IR reflectance, and be similar to that utilised for the identified load carriage components. All hardware and soft components utilised in construction, shall be of a low gloss or flat white colour, if at all possible. (Appendix B refers.)

2.3 The ITS carrier, and any other sub-components, if so supplied, shall become part of the ITS system and shall be managed and controlled accordingly.

2.4 The ITS shall be likely secured to either side of the current load carriage systems, or possibly vertically along the back of each rucksack. It is important that once secured, the ITS does not break or come loose, or create a hazard to the soldier or other members while attached to their load carriage system.



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**ALLIED ENVIRONMENTAL CONDITIONS AND TEST
PUBLICATION,
AECTP-230, (EDITION 1), LEAFLET 2311/1,
MAY 2009**

1.0 DESCRIPTION

1.1 The ITS shall be used by every member of the CAF who needs this capability under all identified winter conditions in accordance with NATO AECTP-230 (Allied Environmental Conditions and Test Publication), (Edition 1), LEAFLET 2311/1, C0 to C4 Climatic Categories, (formerly STANAG 2895 Annex A).

1.2 The ITS and its components, shall function correctly, and not increase the detection of the wearer while conducting his or her duties under any of the identified climatic categories. Specifically for the CAF Winter Operations, these locations have been identified as per Leaflet 2311/1, Table 2, Page 146 and as per Para 2.3 Map 3, Climatic Categories: Mild Cold C0, Intermediate Cold C1, Severe Cold C3 & Extreme Cold C4.

1.3 The ITS and its main components, frame, binding, decking and hardware, shall be capable of operating in the entire range identified in Para 1.0. Notwithstanding this prime requirement, there shall be instances where the ITS may be stored, transported, and utilised in climatic conditions approaching the maximum limits of all of the identified climatic categories as per Leaflet 2311/1, Table 2, Page 146. In such conditions the ITS and its component parts, shall not degrade, change state, corrode, or deteriorate in any manner.

1.4 Further to Para 1.1 above, there shall not be a designated shelf life for subject ITS and its associated components or spare parts.



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TECHNICAL DETAILS FOR THE CAF IN - SERVICE WINTER OPERATIONAL FOOTWEAR

1.0 INTRODUCTION

1.1 ITS project interdependencies require the ITS shall be compatible with the current in-service operational winter footwear systems. Specifically the Land Force Wet Weather Combat Boot, the Extreme Cold Weather Mukluk, and the Interim Extreme Cold Weather Mukluk.

2.0 DESCRIPTION: COLD WET WEATHER COMBAT BOOT (CWWB)

2.1 - Generic (A/A) NSN - 8430-21-914-9924

2.2 - Suggested Climatic Zones (in accordance with AACTP 200- 3), 10°C to - 20°C

2.3 - Range from Size Smallest - 215/88 to Size Largest - 305/116



2.4 Dimensional Information

2.4.1 The following table identifies the physical dimensions for the smallest and largest sizes of the cold wet weather winter combat boot.

Size	Sole length	Sole width	Sole Circumference	Toe height
Smallest	10.25 in.	4.00 in.	24.50 in.	2.63 in.
Largest	13.75 in.	5.25 in.	32.50 in.	3.25 in.



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3.0 DESCRIPTION: EXTREME COLD WEATHER MUKLUK (ECWM)

3.1- Generic Identification NSN - 8430-21-104-6909 A/A

3.2- Suggested Climatic Zones (in accordance with AACTP 200-3) 0°C to - 40°C

3.3 - Range from Size Smallest – 3N to Size Largest – 14M



3.4 Dimensional Information

3.4.1 The following table identifies the physical dimensions for the smallest and largest sizes of the cold wet weather winter combat boot.

Size	Sole length	Sole width	Sole Circumference	Toe height
Smallest	11.00 in.	3.75 in.	25.00 in.	3.50 in.
Largest	14.00.in.	5.50 in.	34.00 in.	4.00 in.



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4.0 DESCRIPTION: INTERIM EXTREME COLD WEATHER MUKLUK

4.1 - Generic (A/A) NSN - 8430-20-AOF-5856

4.2 - Suggested Climatic Zones (in accordance with AACTP 200 – 3), 0°C to - 60°C

4.3 - Range from Size Smallest - 4M to Size largest - 15M



4.4 Dimensional Information

4.4.1 The following table identifies the physical dimensions for the smallest and largest sizes of the extreme cold weather operational mukluk.

Size	Sole length	Sole width	Sole Circumference	Toe height
Smallest	11.0 in.	4.30 in.	25.50 in.	3.50 in.
Largest	15.25 in.	6.00 in.	36.00 in.	4.50 in.



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5.0 FOOTWEAR CONSIDERATIONS

5.1 The ITS shall be compatible with the identified current CAF winter operational footwear. There shall be provision to accommodate other identified footwear currently in service with other elements and /or new commercial products. In unique circumstances, the binding system should be capable of adjustment, in all 3 dimensional planes, for generic winter footwear from a size 5 woman's up to and including a size 16 men's.



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CAF PRIMARY MEANS OF TACTICAL TRANSPORTATION

1.0 INTRODUCTION

1.1 One of the primary requirements identified under Mobility is that while carried by any CAF member, the ITS shall not hinder the ingress or egress from the primary means of tactical transportation. These means are identified as follows:

1.2 Land Force

1.2.1 The CAF land force vehicles are categorized as either “A or B fleets” as they are the primary and secondary means of CAF troop transport for operations. The A and B fleet modes of transport include:

1.2.1.1 A Fleet (reference link provided for guidance purposes only)

1.2.1.2. LAV

http://admmat.mil.ca/dglepm/daspm/en/tracked_light_armoured_vehicle_tlav_e.asp



1.2.1.3. LEO 2

http://admmat.mil.ca/dglepm/daspm/en/daspm_4_e.asp



1.2.1.4 LEO 1

http://admmat.mil.ca/dglepm/daspm/en/daspm_6_e.asp

1.2.1.5 LAVIII, Bison, Coyote

http://admmat.mil.ca/dglepm/davpm/en/about_us_e.asp



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1.2.2.1 B Fleet :

1.2.2.2 AHSVS (Armoured Heavy Support Vehicle System), 98 Prime Movers,

1.2.2.3 HLVW (Heavy Logistics Vehicle) Wheeled, approx. 1100,

1.2.2.4 MLVW (Medium Logistics Vehicle Wheeled), approx. 1000

1.2.2.5 MSVS (Medium Support Vehicle System) MILCOT, approx. 1300

1.2.2.6 Silverado MILCOT Crew Cab,

1.2.2.7 LUVW G Wagon (Light Utility Vehicle Wheeled), approx. 950

1.2.2.8 BV206 (Small Unit Support Vehicle), approx. 40

1.2.2.9 LOSV & ATV's

1.2.2.10 LSVW (Light Support Vehicle Wheeled), approx. 2700

2.0 AIRCRAFT

2.1 CAF Land Force members are also transported by means of various aircraft. They are identified as follows:

2.1.1 CC 130J - Super Hercules - <http://withfriendship.com/images/d/19499/C-130J-Super-Hercules-image.jpg>

2.1.2 CC 130H - Hercules –
http://farm9.staticflickr.com/8309/7984272318_8a40a6c7d9_z.jpg

2.1.3 CC 115 - Buffalo - <http://www.bing.com/images/search?q=3.%09CC+115+-++Buffalo+pics>

2.1.4. CH 146 - Griffon - <http://cdn-www.airliners.net/aviation-photos/photos/9/9/1/1654199.jpg>

2.1.5 CH 147 - Chinook - http://www.enemyforces.net/helicopters/ch47_chinook.jpg



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2.1.6 CH 149 - Cormorant

http://farm4.staticflickr.com/3811/9348035927_d696b1d83e_z.jpg

2.2 There are also CAF Air Force members who regularly may be involved with the ITS during military operations namely SAR technicians (search and rescue) and personnel associated with all TAC HEL (tactical helicopter) operations.



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TECHNICAL DETAILS FOR THE CAF IN - SERVICE WINTER OPERATIONAL HAND WEAR

1.0 INTRODUCTION

1.1 ITS project interdependencies require the ITS shall be compatible with the current in-service operational winter hand wear systems. Specifically the two main items of hand wear, the Land Force Cold Wet Weather Glove and the Extreme Cold Weather Mitt.

2.0 DESCRIPTION

2.1 Cold Wet Weather Glove:

2.1.1 The cold wet weather glove is the currently issued glove for all CAF Army personnel for Winter Ops. The range of conditions whereby gloves are used is defined as Mild cold (minus 6 to minus 19 Centigrade) to Cold (minus 37 to minus 46 Centigrade), with saturating humidity. The ITS binding/closure system should be expected to be compatible with donning and doffing for all personnel while wearing the cold wet weather glove when required.



GLOVES, COLD WET WEATHER – PALM VIEW

NSN 8415-21-920-9019 A/A

CF. Army, Black Goatskin leather palm with CADPAT™(TW) textile
gauntlet, reinforced palm, insulated, lined, waterproof, 12 sizes



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2.2 Extreme Cold Weather Mitt:

2.2.1 The extreme cold weather mitt is the current issue hand wear for CAF Army personnel when conducting Winter Ops in extreme cold conditions. The range of conditions is defined as Cold (minus 37 to minus 46 Centigrade) to Extreme cold (minus 57 Centigrade), with saturating humidity. The ITS binding/closure system, should be as compatible as possible for any individual while wearing the extreme cold weather mitt. It is most likely that the individual shall remove his/her outer mitt and utilise the inner liner or a thinner glove while actuating or adjusting the binding system on the ITS, whichever provides a better degree of tactility to the wearer. Refer to images attached.



MITTEN, EXTREME COLD WEATHER – Palm View

NSN 8415-21-104-2104 A/A

CF., Leather with Mouton back, 2 sizes



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MITTEN INSERT, EXTREME COLD WEATHER – Palm View

NSN 8415-21-104-2079 A/A, worn with the Mitten Extreme Cold Weather (Arctic Mitten), 2 sizes



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TECHNICAL DETAILS FOR THE CAF IN - SERVICE MULTI - TOOL

1.0 INTRODUCTION

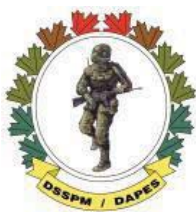
1.1 ITS project interdependencies require the ITS to be compatible with the current in-service operational support items. Specifically the ITS must be capable of being maintained by the user with his/her standard issue Multi-tool. It is identified as NSN - 5110-01-434-3458, Multiplier basic.

2.0 DESCRIPTION

2.1 The multiplier is the currently issued general purpose infantry tool for all CAF Army personnel. It is constructed of stainless steel and comes with a variety of features and blades designed to provide the user a tool which can be utilised in a variety of situations. The ITS binding/closure system, and any other hardware on the ITS, requiring either removal or replacement, must be compatible with this Multi-tool. Refer to the picture below attached for details on the available features.



Any other details regarding the Multi-tool can be obtained from the manufacturer's website at: <http://www.gerbergear.com/Military/Tools/MP600-07554>.



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CAF COMMON PETROLEUMS, OILS, LUBRICANTS AND CHEMICALS

1.0 DESCRIPTION

1.1 The following list is representative of the most commonly encountered Petroleum, Oils and Lubricants (POL's) and Chemicals utilised by CAF personnel. This list is not 100% final, in that all identified items are currently in use and are subject to change as deemed necessary. Those wishing further details shall have to contact the applicable DND technical authority for each chemical, or the applicable MSDS (Material Safety Data Sheet) provided by the specific manufacturer of the product.

2.0 SOURCES

2.1 CGSB Spec Listing: <http://w3.pwgsc.gc.ca/cgsb/text/catlog-e.html>

2.2 US Military Online Specs available at <http://www.dsp.dla.mil/>

3.0 LIST OF POL'S/CHEMICALS

3.1 Naphtha

- [CAN/CGSB-3.27-M89](#) Naphtha

3.2 Kerosene

- [CAN/CGSB-3.3-99](#) – Kerosene

Type No. 1-K Kerosene is intended for use in unvented space heaters certified to CAN/CSA-B140.9.3-M, when used with proper maintenance in well-ventilated surroundings, and in wick-fed illuminating lamps.

Type No. 2-K Kerosene is intended for use in flue-connected stoves and heaters.

3.3 Weapon Cleaning Agents

- VV-L-800 (Gun oil, general purpose preservative light, O-190)
- MIL-L-14107 (lubricating oil, low temperature, O-157)
- Mil-L-63460 (CLP)
- Mil-C-372 (Bore cleaner)

3.4 Motor Gas (Mogas)

- [CAN/CGSB-3.5-99](#) - Unleaded Automotive Gasoline, Amdt 1, dated January 2001
- [CAN/CGSB-3.511-93](#) - Oxygenated Unleaded Automotive Gasoline Containing Ethanol



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- 3.5 Diesel Fuel (note that Can/CGSB 3.6 Type A is no longer procured (high sulphur fuel))
- CAN/CGSB-3.517-2000, Type A
 - [3-GP-11d](#) (November 2002) - Naval Distillate Fuel (possible for roll-on – roll-off operations)
- 3.6 Turbine CGSB 3.23 (F-34, Jet A1, JP-8)
- [CAN/CGSB-3.23-2002](#)- Kerosene-Type Aviation Turbine Fuel (deployed operations)
 - Mil-T-83133
- 3.7 Engine Oils
- MIL-PRF-2104 (15W40, 30W, 10W)
 - MIL-PRF-46167 (0W30, 20W30)
 - Essolube XD-3 (0W30)
 - Ursa Superplus (50W)
 - A-A-52039 (Synthetic and Mineral Based 5W30)
 - Essolube XD-3 Extra, Super Plus (20W20)
- 3.8 Gear Oils
- MIL-PRF-2105
- 3.9 Hydraulic Fluids
- Dexron III (GM-6137M) – also a lubricity additive for JP-8 on operations
 - MIL-PRF-6083 (Hydraulic Fluid for Preservation & Operation, NATO Code C-635)
 - MIL-PRF-5606 (Hydraulic Fluid, Petroleum Base, Aircraft and Arty, Superclean, H-515)
 - SAE J1703/DOT 3 (polyglycol brake fluid)
 - SAE J1705 / MIL-B-46176 (silicone brake fluid)
- 3.10 Grease
- MIL-PRF-10924 (Grease, Automotive & Artillery (GAA), G403)
 - Mil-G-23827 (Grease, Instrument, G-354)
 - MIL-G-27617, Type II (Grease, perfluorinated liquid oxygen compatible, G-398)
 - MIL-G-27617 Type III (Grease, perfluorinated liquid oxygen compatible, G-399)
- 3.11 Grease (molybdenum disulphides)
- Mil-G-21164 (Grease, Aircraft Synthetic, Molybdenum Disulphide, G-353)



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- 3.12 Icing Inhibitor
- [3-GP-531M](#) - Methanol, Technical (aka methyl alcohol, diesel fuel de-icer, also used in air-brakes de-icing)
 - [3-GP-525Ma](#) – Isopropanol; to this standard is intended for use in fluid de-icing systems of aircraft and as a fuel line or carburetor de-icer in automotive fuels.
 - [CAN/CGSB-3.526-M87](#) - Icing Inhibitor for Aviation Fuels
- 3.13 Windshield Washer Cleaner
- [CAN/CGSB-3.532-M85](#) - Antifreeze, Windshield Washer, Methanol Base. This standard applies to two types of methanol based windshield washer antifreeze intended to assist windshield wiper blades in the effective removal of dirt, mud, slush and snow from the windshields of automotive vehicles.
- 3.14 Anti- freeze
- [CAN/CGSB-3.890-M83](#) - Coolant Concentrate, Automotive Engine (light duty and heavy duty)
 - ASTM D3306/ASTM D4985 (for automotive light-duty and heavy duty service)
 - ASTM D6210 (heavy duty service – low silicate)
 - Extended Life Coolants (Dex-Cool – Texaco /GM, Ethylene glycol with carboxylate inhibitor package)
- 3.15 JP-4/Jet B (NATO Code F-40)
- [CAN/CGSB-3.22-2002](#)- Wide Cut Type Aviation Turbine Fuel
 - MIL-T-5624
- 3.16 RSDL (rapid skin decontaminant lotion)
- 6505-21-912-5231, (training lotion)
 - 6505-21-912-5229, 45ml., (CF Medical Supply Issue)
 - 6505-21-912-5230, 500ml., (CF Medical Supply Issue)
- 3.17 Dry Cleaning Solvent
- PD-680 Type II
- 3.18 Camouflage Creams
- MIL-P-2018F, CFP5-85, Light Green and Loam
 - “ , CFP6-93, Light Green and Loam



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3.19 Sunscreen Lotion

- Pre-sun 15 Lotion, PS15, 6505-21-907-8181
- Pre-sun 29 Lotion, PS29, 6505-01-267-1483
- Pre-sun 39 Lotion, PS39, 6505-01-902-2287

3.20 Insect Repellent

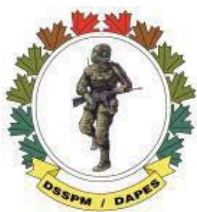
- Military Issue, 6840-21-903-0036, 71.25% DEET
- Deep Woods Off, 6840-21-859-2246, 28.5% DEET

3.21 Lip Balm

- 6508-00-537-7657, Atlas labs, #917922 “Lip-Balm”

3.22 Battery Acids

3.23 Liquid Oxygen (LOX)



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