Public Works and Government Services Canada | Travaux publics et Services gouvernementaux Canada



**RETURN BIDS TO:**
**RETOURNER LES SOUMISSIONS À:**

**Darren Langdon**
**darren.langdon@tpsgc-pwgsc.gc.ca**

# LETTER OF INTEREST
# LETTRE D'INTÉRÊT

| | |
|---|---|
| **Title - Sujet** C4 Plastic Explosives<br>Request for Information on replacement of C4 demolition explosives | |
| **Solicitation No. - N° de l'invitation**<br>W8486-217397/A | **Date**<br>2021-04-20 |
| **Client Reference No. - N° de référence du client**<br>W8486-217397 | **GETS Ref. No. - N° de réf. de SEAG**<br>PW-$$BK-383-28198 |
| **File No. - N° de dossier**<br>383bk.W8486-217397 | **CCC No./N° CCC - FMS No./N° VME** |
| **Solicitation Closes - L'invitation prend fin**<br>**at - à 02:00 PM** Eastern Daylight Saving Time EDT<br>**on - le 2021-05-20** Heure Avancée de l'Est HAE | |
| **F.O.B. - F.A.B.**<br>**Plant-Usine:** ☐ **Destination:** ☐ **Other-Autre:** ☐ | |
| **Address Enquiries to: - Adresser toutes questions à:**<br>Langdon (bk div), Darren | **Buyer Id - Id de l'acheteur**<br>383bk |
| **Telephone No. - N° de téléphone**<br>(819) 639-3772 ( ) | **FAX No. - N° de FAX**<br>( ) - |
| **Destination - of Goods, Services, and Construction:**<br>**Destination - des biens, services et construction:**<br>Specified Herein<br>Précisé dans les présentes | |

**Comments - Commentaires**

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

**Issuing Office - Bureau de distribution**
Munitions Division (BK) / Division des munitions (BK)
11 Laurier St./11, rue Laurier
8C2, Place du Portage, Phase III
Gatineau
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Canada

## 1 PURPOSE OF THE REQUEST FOR INFORMATION

1.1 This Request for Information (RFI) seeks answers to questions that have arisen during the Government of Canada's (GoC) development of a long term procurement strategy for a new general-use plastic demolition charge of equal or greater performance and more environmentally friendly, to replace the in-service RDX-based plastic demolition charge, also known as Composition C4.

1.2 On behalf of Canada, Public Services and Procurement Canada's (PSPC) intent for this RFI is to engage Industry in a consultative process and seek Industry input via responses to the questions identified herein.

1.3 Interested respondents are invited to review the questions at Annex A of this RFI and provide comments, answers and/or questions, in writing, to the PSPC Contracting Authority (identified at Section 6).

## 2 REQUIREMENTS

2.1 The Canadian Armed Forces (CAF) is seeking a new general-use plastic demolition charge to replace the in-service RDX-based plastic demolition charge, also known as Composition C4.

2.2 Key tasks of the plastic demolition charge include both destructive and constructive operations, for example:

a) Clearing obstacles or obstructions
b) Destroying fortifications, bridges, roads and railways
c) Tactical breaching
d) Rocks blasting
e) Improvised explosive device and explosive ordnance disposal
f) Emplacing abatis
g) Land clearance and site preparation
h) Ice and log jam clearance, etc.

2.3 Annual consumption of the plastic demolition charge for the past 10 years averaged 15,000 blocks (1.25 lbs per block).

## 3 POTENTIAL SCOPE AND CONSTRAINTS

3.1 This RFI is not subject to the Controlled Goods Program; however, any resulting competitive process may be. For information pertaining to the Controlled Goods Program, please refer to the Public Services and Procurement Canada (https://www.tpsgc-pwgsc.gc.ca/pmc-cgp/index-eng.html) website.

3.2 There are no security requirements associated with this RFI; however, there may be security requirements associated with any resulting competitive procurement process. Additional information on the security requirements will be communicated on https://buyandsell.gc.ca/ as part of the upcoming competitive procurement process.

3.3 Any additional information on the potential scope and constraints will be communicated on https://buyandsell.gc.ca/ as part of any competitive process.

## 4 CANADA'S LEGISLATION AND GOVERNMENT POLICIES

4.1 The following is a list of possible legislation and government policies that may govern any upcoming competitive procurement process:

a) Defence Production Act
   i. Controlled Goods Regulations

ii. Technical Data Control Regulations
b) Explosives Act and Explosives Regulations, 2013
c) Export and Import Permits Act
d) Transportation of Dangerous Goods Act and Transportation of Dangerous Goods Regulations
e) Public Services and Procurement Canada Policy on
i. Green Procurement
ii. Controlled Goods Program

4.2 Any additional information pertaining to Legislation and Government Policies will be communicated on https://buyandsell.gc.ca/ as they become available throughout the period of this RFI or as part of any resulting competitive procurement process.

## 5 ANTICIPATED SCHEDULE

5.1 The following is the tentative schedule associated with both the RFI and potential competitive procurement process:

a) Release of Request for Information: April 2021
b) Request for Information Closing date: May 2021
c) Analyze responses and determine a course of action: June 2021
d) Potential Release Draft Request for Proposal: March 2022
e) Potential Release Request for Proposal: June 2022
f) Potential Contract Award: Fall 2022
g) Potential First Delivery: Early 2023

5.2 Any changes to the tentative schedule will be communicated on https://buyandsell.gc.ca/ as they become available throughout the period of this RFI.

## 6 PSPC CONTRACTING AUTHORITY

**Important Notes to Respondents:**

**All information, communication or correspondence must be directed to the Contracting Authority ONLY. No other member or representative of the Government of Canada can be informed, challenged or otherwise communicated with, including carbon copy or blind carbon copy on an email or any other written correspondence regarding this RFI.**

6.1 All correspondence must be directed, in writing via email, to the PSPC Contract Authority identified below:

Darren Langdon
Contracting Authority
Email: darren.langdon@tpsgc-pwgsc.gc.ca / Tel.: 819-639-3772

6.2 Changes to this RFI may occur and will be advertised on the Government Electronic Tendering System, https://buyandsell.gc.ca/

6.3 Canada asks interested parties to visit BuyandSell.gc.ca regularly to check for changes, if any.

## 7 NOTES TO INTERESTED INDUSTRY PARTICIPANTS

7.1 This RFI is neither a call for tender nor a Request for Proposal (RFP), and no agreement or contract for the procurement of the requirement described herein will be entered into solely as a result of this RFI. The issuance of this RFI is not to be considered in any way as a commitment by Canada nor as authority to potential Respondents to undertake any work that could be charged to Canada.

7.2 Any discussions on this subject with project staff representing the Department of National Defence (DND), PSPC or any other Government of Canada representative or other personnel involved in project activities, must not be construed as an offer to purchase or as a commitment by Canada.

7.3 Respondents may provide documents / information / data collected as commercial-in-confidence (and if identified as such, will be treated accordingly by Canada). However, Canada reserves the right to use the information to assist them in drafting performance specifications and for budgetary purposes in consultation with both national and international stakeholders. Requirements are subject to change, which may be as a result of information provided in response to this RFI. Participants are advised that any information submitted to Canada in response to this RFI may or may not be used by Canada in the development of the potential subsequent RFP.

7.4 Participation in this RFI is encouraged, but is not mandatory. There will be no shortlisting of potential suppliers for the purposes of undertaking any future work as a result of this RFI. Similarly, participation in this RFI is not a condition or prerequisite for the participation in any potential subsequent solicitation.

7.5 Respondents will not be reimbursed for any cost incurred by participating in this RFI.

## 8 ATTACHED DOCUMENTS

Annex A – Characteristics and questions

## 9 CLOSING DATE FOR THE RFI

9.1 Respondents are asked to submit their responses to the questions posed in Annex A by 2:00 pm EDT on 20 May 2021.

Annex A – Characteristics, questions and other information

## 1. Characteristics

1.1 For safety reasons, it is intended that the new plastic demolition charge:

a) already been qualified for its intended military use, in accordance with the STANAG 4170 (edition 3) and AOP-7 (edition 2);
b) already have undergone Safety and Suitability of Use Assessment and is Final (or Type) Qualification certified by a NATO or NATO partner country's military forces; and
c) be malleable in all precipitation, humid or dry climates, underwater, and at temperature extremes, and must not cling to hands and latex gloves.

1.2 For some physical attributes, it is intended that the new plastic demolition charge:

a) be moulded from a homogeneous composition of non-RDX or no more than 5% RDX explosive and qualified explosive ingredients for military use;
b) have moisture content, tested in accordance with MIL-STD-650 Karl Fischer method, and not exceed 0.25%;
c) not have additives to the composition that react with the explosive ingredients or its packaging materials; and
d) incorporate a detection taggant 2,3-dimethyl-2.3-dinitrobutane (DMDNB).

1.3 In terms of fit, form and function, it is intended that the new plastic demolition charge:

a) be rectangular in shape, forming into blocks of approximately 28 cm long by 5 cm wide by 2.5 cm in thickness (nominal);
b) have individual weight falling approximately between 500 gram and 650 gram per block;
c) provide similar weight and dimensions format to fit into the current demolition kit (28 cm long by 5 cm wide by 2.5 cm in thickness (nominal) and 567 grams);
d) provide effectiveness in all precipitation, humid or dry climates, underwater, and at high or low temperature extremes, under the following condition:
    i. Between -40°C and 70°C, without significant loss in performance.
    ii. In all light conditions, day or night.
    iii. NATO Allied Environmental Conditions and Test Publication (AECTP-230) climactic zones inclusively, A1, A2 A3, B1, B2, B3, C0, C1 and C2.
    iv. Underwater, without significant loss in power.
    v. Fully submersible in original packaging to a depth of 50 foot sea water (fsw), for no less than 24 hours.
    vi. Open field under sand, dirt and gravel conditions
e) when tested in batches in accordance with D-74-375-AAO/SF-001, detonate completely and cause perforation of the steel plate;
f) be fully interoperable with in-service C13 Explosive Ordnance Disposal (EOD) Demolition Kit and initiation systems such as detonating cord, electric and non-electric initiation sets;
g) have initiation by intimate contact with or direct insertion of blasting caps of the M6 and M7 series; and
h) accept detonating cord sensitive either by insertion with a uli knot or whipping in the approved method.

1.4 For storage, it is intended that the new plastic demolition charge:

a) not require to be flipped;
b) have a shelf-life of no less than 10 years at ambient temperature;
c) be able to be stored in temperatures ranging from at least -57°C to 77°C;
d) be able to be stored in non-climate and non-humidity controlled storage sites and magazines;
e) need to be proofed no sooner than 3 years after manufacture;
f) need to be proofed not more often than yearly, following the initial 3-year period; and
g) have packaging materials that do not react with the explosive ingredients.

1.5 For transportation, it is intended that the new plastic demolition charge:
- a) be transportable by rail, ship, military aircraft, on- and off-road vehicle; and
- b) be transportable by soldier, including loosely in the in-service rucksack or small pack.

## 2. Questions

2.1. Respondent Information.
- a) What is the name of your company and/or the company that you represent?
- b) What is the name of the Original Equipment Manufacturer (OEM) of your charge?
- c) What is an estimated unit cost of the charge both with and without shipping?

2.2. Based on DND's procurement requirements:
- a) What is the typical lead time for your charge?
- b) Is there a minimum order quantity for your charges?
- c) Is there a minimum manufacturing lot run for your charges?

2.3. Technical.
- a) What type of non-RDX or no more than 5% RDX based charge do you manufacture?
- b) Does the charge that you would propose meet all the specifications listed above in Annex A Section 1?
- c) If the charge that you would propose does not meet all the specifications listed above in Annex A Section 1, which specifications does it not meet?
- d) What type, if any, official or certified documentation that could demonstrate the specifications could you provide for the charge you would propose?
- e) What active explosive ingredients are present in the charge?
- f) Can you provide toxicity data of all the ingredients?
- g) Where are the explosive ingredients manufactured?
- h) Where is the source of raw materials located?
- i) Can you provide the name and address of the manufacturer?
- j) After the charge has passed its shelf life, what would be the demilitarization and disposal method of the charge?
- k) Does the charge have or require a special In-Service Surveillance (ISS) Plan?

2.4. Qualification.
- a) Has some or all qualification testing been done for your current charge?
- b) To what extent / standard has the testing been done for this specific charge?
- c) Has your current charge been certified as Safe and Suitable for Service (S3) use by a NATO country?
- d) Has the charge previously performed an Environmental Impact Assessment that:
  - 1) identified intrinsic environmental characteristics of the explosive;
  - 2) correlated explosive environmental characteristics with legislative requirements;
  - 3) identified mitigating measures to reduce the environmental impact or health risks; and
  - 4) identified environmentally compatible alternatives?

2.5. Usage.
- a) Is your current charge currently in use by any NATO countries?

2.6. Production Capacity / Strength of Design.
- a) For how long has your current charge design been in production?
- b) How many charges (Rough Order Magnitude) have you produced thus far?
- c) Is your charge currently in production?
- d) If current production is not underway, how long would a start-up be in order to produce the charges?
- e) How many more years do you plan on producing your current charge?
- f) Do you have experience in the importation of explosives into and the transportation of explosives in Canada?
- g) Do you have experience to conduct First Article Testing and Lot Acceptance Testing, and prepare test results report?

h) Do you have experience in applying for and successfully obtaining the Natural Resource Canada's Authorization and Classification Certificate in Canada?

## 3. MSP Considerations

3.1. The Munitions Supply Program (MSP) establishes a framework under which the Government of Canada sources ammunition and small arms for National Defence (DND) from unique domestic industrial facilities that have been designated as strategic sources of supply and centres of excellence. Further details on Canada's MSP can be found at https://www.tpsgc-pwgsc.gc.ca/app-acq/amd-dp/munitions-eng.html .

3.2. Intellectual Property.

a) Do you have legal access to the design(s) proposed and, if required or decided, are you in a position to broker access to those design(s) for the purpose of production in Canada under the MSP and for the sale to and use by the Canadian Government?

b) Would there be any possible issues with technology transfer for the charge to be built in Canada (i.e. differing standards between Canada and other countries, electrical differences, etc.).

3.3. National Security and Industrial Secrets.

a) To what extent is information and data transfer constrained (if at all) by matters of national security and/or protection of industrial secrets?

3.4. Munitions Supply Program (MSP).

a) Would you or the OEM you represent be willing to have your charge manufactured under license by one or more of Canada's MSP strategic partners?

b) If required or decided, what amount of workshare do you consider to be possible to achieve with MSP companies?

3.5. Based on a potential workshare with MSP strategic supply partners:

a) What are the estimated Non-Recurring Engineering costs for:

1) Royalties;
2) Technology transfer;
3) Licenses fees;
4) Technical support;
5) Training;
6) Manufacturing equipment(s) and tooling;
7) Technical data package (TDP); and
8) Other considerations.

## 4. Other

4.1. Please provide any other information you may want to share regarding the above stated requirements and questions.

## A. REFERENCE DOCUMENTS

A-1 AECTP-230 (Edition 1): *Climate Conditions*, NATO, 2009.
A-2 AOP-2 (Edition D, version 1): *Identification of Ammunition*, 2017.
A-3 AOP-7 (Edition 2): *Manual of Data Requirements and Tests for the Qualification of Explosive Materials for Military Use*, NATO, 2003.
A-4 AOP-15: *Guidance on the Assessment of the Safety and Suitability for Service of Non-nuclear Munitions for NATO Armed Forces*, NATO, 2009.
A-5 AOP-26 (Edition 3): *NATO Catalogue of Explosives*, 2012.
A-6 AOP-39 (Edition D Version 1): *Policy for Introduction and Assessment of Insensitive Munitions (IM)*, NATO, 2018.

A-7 AMS-STD-595, *Colors Used in Government Procurement*, 2017.
A-8 ISPM 15, *Regulation of Wood Packaging Material in International Trade*, International Standards for Phytosanitary Measures, 2009.
A-9 MIL-STD-650, *Explosive: Sampling, Inspection and Testing*, US Department of Defense, 1996.
A-10 MIL-STD-2015D, *Hazard Assessment Tests for Non-nuclear Munitions*, US Department of Defense, 2011.
A-11 STANAG 4170 (Edition 3) – *Principles and Methodology for the Qualification of Explosives Materials for Military Use*, NATO, 2008.
A-12 *Biological Test Method: Acute Lethality Test Using Rainbow Trout*, Report EPS 1/RM/9, Environment Canada, July 1990 (with May 1996 and May 2007 amendments).
A-13 Guidelines for the Use, Handling and Disposal of Treated Wood, Parks Canada, 2009.
A-14 *Manual of Tests and Criteria*, ST/SG/AC.10/11/Rev.7, 7th revised edition, United Nations, 2019.
A-15 *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document*, US EPA, June 2010.
A-16 *The NOL Large Scale Gap Test. III. Compilation of Unclassified Data and Supplementary Information for Interpolation of Results*, Naval Ordnance Laboratory, NOLTR-74-40, 1974.
A-17 C-09-005-003/TS-000, *Transportation*, DND 2013.
A-18 C-74-300-D01/TA-000, *Ammunition – Logistical Data*, DND, 2005.
A-19 D-09-002-002/SG-000, *Ammunition Lotting Procedures*, DND, 2004.
A-20 D-09-002-003/SG-000, *Specification for Palletization of Ammunition*, 2005.
A-21 D-09-002-011/SG-000, *Assessment of Ammunition Containers, Packages, and Palletized Unit Loads*, DND, 2004.
A-22 D-74-375-AAO/SF-001, *Specification for Charge, Demolition, Plastic*, DND, 2010.
A-23 D-74-375-LAO/SF-005, *Specification for Case, Demolition, EOD, C13*, DND, 2010.