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LETTER OF INTEREST
LETTRE D'INTÉRÊT

Title - Sujet RFI - LBDS Project	
Solicitation No. - N° de l'invitation W8476-206286/A	**Date** 2020-04-24
Client Reference No. - N° de référence du client W8476-206286	**GETS Ref. No. - N° de réf. de SEAG** PW-$$PV-956-78682
File No. - N° de dossier pv956.W8476-206286	**CCC No./N° CCC - FMS No./N° VME**
Solicitation Closes - L'invitation prend fin **at - à 02:00 PM** **on - le 2020-06-25**	**Time Zone** **Fuseau horaire** Eastern Daylight Saving Time EDT
F.O.B. - F.A.B. **Plant-Usine:** ☐ **Destination:** ☐ **Other-Autre:** ☐	
Address Enquiries to: - Adresser toutes questions à: Courteau, Robert	**Buyer Id - Id de l'acheteur** pv956
Telephone No. - N° de téléphone (343) 550-1614 ( )	**FAX No. - N° de FAX** ( ) -
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Canada

SUBJECT: Request for Information
Joint Chemical Biological Radiological Nuclear Local Biological Defence System Project
(Joint CBRN LBDS) Project
Department of National Defence (DND)

Background

The Canadian Armed Forces (CAF) Biological Detection, Identification and Monitoring (Bio DIM) capability is current afforded by the Vital Point Bio Sentry (VPBS) which came into service in 2011. During its procurement, many engineering trade-offs were made in order to meet the required speed and level of detection; nonetheless, this created a system that saw little usage due to its bulkiness, high false alarm rate, and fast user skill fade.
In 2017, Canada's Defence Policy "Strong, Secure, Engaged" re-ascertained the need for the Canadian Armed Forces to be able to evolve and face all its missions within an austere Chemical, Biological, Radiological and Nuclear (CBRN) environment. As the VPBS is underutilized and will fall into obsolesce within the next five to ten years, the Department of National Defence (DND) needs a reliable Bio DIM capability that will provide biological threat situational awareness in order to minimize the potential impact on CAF's assigned missions. In addition the LBDS will need to be optimized for non-specialized CAF personnel wearing complete CBRN personal protective equipment. This is expected to be achieved by integrating the following modular, light-weight and portable Bio DIM capabilities:

a. Bio-aerosol point detectors;

b. Bio-aerosol air samplers;

c. Biological identification systems; and

d. Bio-aerosol standoff detectors.

The vision of the Local Biological Defence System (LBDS) project is to have an integrated system consisting of an array of up to 15 bio-aerosol point detectors and 15 air samplers, capable of being remotely monitored and controlled by a single laptop (Government Furnished Equipment), an identification system capable of providing up to confirmatory level of identification in accordance with AEP-66, NATO Handbook for Sampling and Identification of CBR agents, and a standoff bio-aerosol detector in order to protect vital points of interest at the tactical level such as airfields, forward operating bases, ships conducting littoral operations, ship boarding parties or while along-side in a foreign port, etc.

The intent is for the point detectors to conduct continuous monitoring, alarm when there is a bio-aerosol hazard, and trigger air samplers to gather a sample for further identification. The point detectors and air samplers can be separate or integrated capabilities. The point detectors and air samplers must be capable of transmitting CBRN messages in accordance with ATP-45(F), Warning, Reporting and Hazard Prediction of CBRN Incidents. The system will alert threatened localities and provide situational awareness to enable the local commander decision support in assessing probable impact of the biological attack on operations.

The biological defence system must provide an alarm within 30 seconds to minimize exposure. The point detectors will trigger the air samplers in the locality producing a sample for further

identification processes. The identification systems should ideally be ruggedized but must be simple to use and capable of producing results in a maximum of two hours. Point detectors along with the air samplers must be small, light-weight and ruggedized such that no more than two people, ideally one person, can move, setup and teardown the devices in a short period of time.

The bio-aerosol standoff detector would be operated from the protected locality and be capable of being remotely monitored and controlled by a single laptop (Government Furnished Equipment). The standoff detector would scan/monitor the area surrounding the locality, be capable of detecting bio-aerosol threats and providing an alarm increasing warning time of an attack and increasing situation awareness of the local commander.

Defence Research & Development Canada – Valcartier has done substantial work in developing a bio-aerosol standoff detector which could be made available and leverage by the industry to meet the LBDS expectation. Alternative solutions that would meet the requirements are welcomed and will help with informing how the project will proceed with potential solicitation. The intent of the LBDS project is to acquire ruggedized, man-portable bio aerosol standoff detectors to increase early warning and enhance decision support.

LBDS will be integrated into the wider CAF CBRN defence warning and reporting system. Therefore, the LBDS project will incorporate software that is capable of interfacing with individual point sensors, standoff detectors and air samplers in accordance with STANAG 4586.

Annex A contains example scenarios of employment of the LBDS.

Purpose

The purpose of this RFI is to achieve the following:

a) Collect information regarding current market capabilities that meet the requirements as published in this RFI;
b) Seek industry feedback to solidify the DND requirements;
c) Seek costing information from industry for budgetary purposes;
d) Engage potential respondents; and
e) Answer questions, as necessary.

This is the first of several request for information (RFI) in support of this project.

Canada would like to engage industry and seek feedback on the requirements that are published via this RFI.

Requested Information

Although the information collected may be provided as commercial-in-confidence (and, if identified as such, will be treated accordingly by Canada), Canada may use the information to assist in drafting performance specifications (which are subject to change) and for budgetary purposes.

Respondents* are encouraged to identify, in the information they share with Canada, any information that they feel is proprietary, third party or personal information. Please note that Canada may be obligated by law (e.g. in response to a request under the Access of Information and Privacy Act) to disclose proprietary or commercially-sensitive information concerning a respondent (for more information: http://laws-lois.justice.gc.ca/eng/acts/a-1/).

Respondents are asked to identify if their response, or any part of their response, is subject to the Controlled Goods Regulations.

Participation in this RFI is encouraged, but is not mandatory. There will be no short-listing 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.

The RFI closing date published herein is not the deadline for comments or input. Comments and input will be accepted any time up to the time when/if a follow-on solicitation is published.

The LBDS project is now turning to industry to elicit primarily technical data as well as price and availability of equipment that could form part(s) of LBDS. In addition the LBDS project is also looking to industry for their overall solution for LBDS project.

At Annex B is a spreadsheet where industry is asked to provide information on specific equipment. Any supporting document is appreciated but it is asked that interested industry fills in Annex B in order to help the project in processing large amount of data. Various equipment version can be entered on multiple lines.

Annex B requires the respondent to describe their equipment, briefly explaining the technology employed and the weight and dimensions of the components. The unit cost of the equipment and consumables may be given in CAD/USD. The logistical requirements for storing and replenishment of the equipment and consumables are required to estimate the operational availability of the system and its operating expense. In column D the respondent should briefly explain how the required functionalities mentioned in the spreadsheet are implemented in the equipment they offer for the purpose.

Two examples are provided in Annex B in order to help in understanding the level and type of information being sought. As those examples are based on open source information, they could incorporate fictional and / or erroneous information.

If the equipment is not commercialized or would need to be modified in order to meet the LBDS requirement, the Technological Readiness Level (TRL), expected commercialization date (TRL 9), and related improvement cost need to be mentioned in their respective column.

RFI Additional Content

The following annexes are an integral part of this RFI:

Annex A: Example mission scenarios for LBDS; and
Annex B: Equipment requirement specifications.

Notes for Interested Respondents

The RFI is not a Request for Proposal nor does it constitute a commitment, implied or otherwise, based on which the Government of Canada would launch a procurement process. The publication of this RFI does not commit Canada to publish one or more resulting Request for Proposal (RFP) and does not carry any legal or other obligations to enter into an agreement or accept suggestions from respondents. Canada reserves the right to accept or reject, in whole or in part, any comments received.

Should Canada decides to proceed with a RFP for the LBDS project, it may be expected around December 2024.

Confidentiality

Respondents should be aware that Canada can use any information transmitted to it in preparing a competitive request for proposal. However, the government is obliged neither to accede to any statement of interest nor to take it into account in any related document.

All consultations with industry members will be documented. The information collected is governed by the Access to Information Act. If necessary, respondents are asked if the information they provide is to be treated as confidential or proprietary. Canada will not disclose any information designated as confidential or proprietary to the public or to third parties, except for external consultants who could be called in to assess responses to the RFI.

Where necessary, external consultant(s) will sign a non-disclosure agreement.

Language

Communication and/or responses can be made in one of the two official languages of Canada (English or French).

Response Costs

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

Nature and Format of Responses Requested

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

Review Team: A review team composed of representatives of Canada will review the responses. Canada 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.

Confidentiality: Respondents should mark any portions of their response that they consider proprietary or confidential. Canada will handle the responses in accordance with the Access to Information Act.

Follow-up Activity: Canada may, at its discretion, meet with respondents who indicate in their responses that they wish to participate in a follow-up meeting. Such follow-up activity, if conducted, may include, but is not limited to, individual meetings and/or conferences. Canada may, in its discretion, contact any respondents to follow up with additional questions or for clarification of any aspect of a response.

Enquiries

Because this is not a bid solicitation, Canada will not necessarily respond to enquiries in writing or by circulating answers to all potential suppliers. However, respondents with questions regarding this Request for Information may direct their enquiries to:

Robert Courteau
Public Works and Government Services Canada
Acquisitions Branch
Commercial Consumer Products Directorate
140 O'Connor Street
Ottawa, Ontario, K1A 0S5
Telephone: (343) 550-1614
E-mail address: Robert.courteau@pwgsc-tpsgc.gc.ca

Submission of Responses

Responses to questions regarding this RFI are to be sent by email to the Contracting Authority. Respondents are responsible for ensuring that their responses to the RFI have been received by Canada.

The electronic file containing the responses must be submitted in portable document format (PDF) TM or in a readable format using Microsoft Office 2003TM or a more recent version. The email capacity for sending and receiving is limited to a maximum of five (5) Mb.

The submission of an electronic copy will facilitate the distribution to the members of the project team and comply with the Policy on Green Procurement of the Government of Canada.

Closing Date

Responses to this Request for Information will be accepted at any time until 2:00 PM EST, June 25, 2020.

***** *"Respondents" refer to businesses, business consortiums, legally incorporated persons and/or academic organizations with the capacity to meet the requirements specified in this document. Eligible businesses/organizations are encouraged to respond even if they can offer only part of the solution.*

ANNEX A – EXAMPLE MISSION SCENARIOS FOR LBDS

Scenario 1: Canadian Army potential employment of LBDS.

A CAF element (150 personnel) during their deployment overseas has been tasked to secure a critical infrastructure in an austere environment. The local commander has decided to request an LBDS as he/she has been made aware that the enemy has been trying to, albeit unsuccessfully, develop an offensive biological warfare capability. Due to the size of the critical infrastructure it's decided to deploy all fifteen pairs of point detectors/air samplers around the perimeter of the infrastructure. Additionally, the critical infrastructure is located in a large valley (one km radius) which cannot be easily covered by the point detectors/air samplers so a standoff detector is deployed within the critical infrastructure to monitor the valley. The 15 point sensors/air samplers are monitored remotely via a ruggedized laptop by a CBRN operator. The standoff detector is also monitored remotely by another CBRN operator via a ruggedized laptop. In both cases the operators are able see information about their particular sensor(s) but they are also able to see the information of the others laptop on their screen (i.e. the point detector/air sampler laptop would have a map on the screen showing the location of the point detectors/air samplers and the operator would be able to see where the standoff detector is scanning. On the standoff detector laptop map, the operator would be able to see the location of all point detectors/air samplers, when on alarms and be able to see where the standoff detector is scanning).

One evening while scanning the valley with the standoff detector an alarm is triggered on the laptop warning of the detection of a biological aerosol. The operator begins verifying the alarm by viewing laptop display and sees the IR/Thermal CCD camera feed from the standoff detector shows a vehicle moving slowly along a road paralleling the perimeter. On the laptop it appears that the bio-aerosol being detected is also tracking in concert with the vehicle. The laptop software, utilizing local meteorological data, quickly plots that the bio-aerosol plume will be blown across the perimeter of the critical infrastructure. The CBRN operator initiates the local CBRN alarm and a CBRN warning and reporting message is automatically transmitted to the operation center within the critical infrastructure. In addition this message is automatically transmitted to the theatre operation center and the CBRN warning & reporting collection centers. The standoff detector provisionally identifies the bio-aerosol as anthrax. Personnel within the critical infrastructure put on their appropriate personal protective clothing. Within five minutes the bio-aerosol begins passing over the perimeter point detectors/air samplers and two point detectors begin alarming, sending their automated warning & reporting message. Simultaneously they trigger the two air samplers. The CBRN operator quickly collects the samples and beings preforming identification using both lateral-flow immunoassays and polymerase chain reaction equipment. Within 20 minutes the CBRN operator has a positive identification for anthrax on the lateral-flow immunoassay. This information is quickly transmitted through the CBRN warning & reporting infrastructure. Within 2 hours it is further confirmed with PCR equipment the sample is anthrax. Again this additional information is transmitted through the CBRN warning & reporting infrastructure. Health Services personnel begin monitoring personnel within the critical infrastructure for signs/symptoms of anthrax poisoning. Due to the early warning from the standoff detector, quick adoption of protective measures, no personal were exposed to the anthrax.

Scenario 2: Royal Canadian Navy potential employment of LBDS.

The CAF as part of an international operation focusing on counter-terrorism and maritime security has sent HMCS Regina to the Indian Ocean and Arabian Sea. Recent intelligence has indicated that extremist networks are employing dhows and other motor driven boats to move drugs and potentially CBRN related materials. As such the HMCS Regina deploys with the LBDS. This consists of a point detector/air sampler which is mounted above the bridge, a point detector/air sampler to monitor internal ship air, a point detector/air sampler for the naval boarding party, and an identification system.

During routine operations, a suspect dhow is identified by HMCS Regina's on-board helicopter. A naval boarding party is sent to board and search the dhow. The naval boarding party takes the LBDS point detector/air sampler along with chemical and radiological detectors. While searching the dhow, the bio-aerosol point detector alarms triggering the air sampler. The naval boarding party personnel don their CBRN mask. Very quickly a message is sent to HMCS Regina and they begin adopting protective measures, securing the ship, and activating the citadel. Once the naval boarding party is recovered, all personnel wait in the helicopter hanger for both lateral-flow immunoassays and polymerase chain reaction equipment identification to be completed on the air sample. After several tense hours both identification processes come back negative for bio-warfare aerosols.