

National Defence

Défense nationale

Ottawa (Ontario)

K1A 0K2

Quartier général de la Défense nationale

National Defence Headquarters Ottawa, Ontario K1A 0K2

## **REQUEST FOR PROPOSAL DEMANDE DE PROPOSITION**

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

National Defence Headquarters Attn: Myriam Zakaib DLP 9-2-2 <u>Myriam.Zakaib@forces.gc.ca</u>

Title/Titre	Solicitation No - Nº de l'invitation
Fourier Transform Infrared (FTIR)	W8486-195218/B
Spectrometer based Aviator's Breathing	
Oxygen Test Systems	
Date of Solicitation - Date de l'invitati	on
16 January 2023	
Address Enquiries to - Adresser toutes	s questions à
Myriam Zakaib	
Myriam.Zakaib@forces.gc.ca	
,	
,	
Telephone No. – Nº de téléphone	FAX No – Nº de fax
	FAX No – Nº de fax
Telephone No. – Nº de téléphone	FAX No – Nº de fax
Telephone No. – Nº de téléphone         Destination         Department of National Defence	FAX No – Nº de fax
Telephone No. – N° de téléphone         Destination         Department of National Defence         C/O QETE Warehouse 819-997-1706	FAX No – Nº de fax
Telephone No. – N° de téléphone         Destination         Department of National Defence         C/O QETE Warehouse 819-997-1706         Ramp 8, Room C-1113	FAX No – Nº de fax
Telephone No. – N° de téléphone         Destination         Department of National Defence         C/O QETE Warehouse 819-997-1706         Ramp 8, Room C-1113         45 Sacré-Coeur Blvd,	FAX No – № de fax
Telephone No. – N° de téléphone         Destination         Department of National Defence         C/O QETE Warehouse 819-997-1706         Ramp 8, Room C-1113	FAX No – Nº de fax

#### Proposal To: National Defence Canada

We hereby offer to sell to Her Majesty the Queen in right of Canada, in accordance with the terms and conditions set out herein, referred to herein or attached hereto, the goods and services listed herein and on any attached sheets at the price(s) set out therefore.

#### Proposition à : Défense nationale Canada

Solicitation Closes – L'invitation prend fin

On - le : 27 February 2023

At - à: 2 PM, Eastern Standard Time

Nous offrons par la présente de vendre à Sa Majesté la Reine du chef du Canada, aux conditions énoncées ou incluses par référence dans la présente et aux annexes ci-jointes, les biens et services énumérés ici et sur toute feuille ci-annexée, au(x) prix indique(s).

#### Instructions:

Municipal taxes are not applicable. Unless otherwise specified herein all prices quoted must include all applicable Canadian customs duties, GST/HST, excise taxes and are to be delivered Delivery Duty Paid including all delivery charges to destination(s) as indicated. The amount of the Goods and Services Tax/Harmonized Sales Tax is to be shown as a separate item.

**Instructions:** Les taxes municipales ne s'appliquent pas. Sauf indication contraire, les prix indiqués doivent comprendre les droits de douane canadiens, la TPS/TVH et la taxe d'accise. Les biens doivent être livrés « rendu droits acquittés », tous frais de livraison compris, à la ou aux destinations indiquées. Le montant de la taxe sur les produits et services/taxe de vente harmonisée doit être indiqué séparément.

Delivery required - Livraison exigée	Delivery offered - Livraison proposée
See herein	
Vendor Name and Address - Raison so	ciale et adresse du fournisseur
Name and title of person authorized to	sign on behalf of vendor (type or
print) - Nom et titre de la personne aut	orisée à signer au nom du fournisseur
(caractère d'imprimerie)	
Name/Nom	Title/Titre

# Canada

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This bid solicitation cancels and supersedes previous bid solicitation number W8486-195218/A dated 2018-09-04 with a closing of 2018-10-15 at 2 PM EST. A debriefing or feedback session will be provided upon request to bidders/offerors/suppliers who bid on the previous solicitation.

## PART 1 - GENERAL INFORMATION

## 1.1 Security Requirements

- 1. Before award of a contract, the following conditions must be met:
  - the Bidder must hold a valid organization security clearance as indicated in Part 6 -Resulting Contract Clauses;
  - (b) the Bidder's proposed individuals requiring access to classified or protected information, assets or sensitive work site(s) must meet the security requirements as indicated in Part 6 Resulting Contract Clauses;
  - (c) the Bidder must provide the name of all individuals who will require access to classified or protected information, assets or sensitive work sites;
- 2. Bidders are reminded to obtain the required security clearance promptly. Any delay in the award of a contract to allow the successful Bidder to obtain the required clearance will be at the entire discretion of the Contracting Authority.
- 3. For additional information on security requirements, Bidders should refer to the <u>Industrial Security</u> <u>Program (ISP)</u> of Public Works and Government Services Canada (http://ssi-iss.tpsgcpwgsc.gc.ca/index-eng.html) website.

## 1.2 Statement of Work

The work to be performed is detailed under Annex A.

#### 1.3 Debriefings

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

## 1.4 Trade Agreements

The requirement is subject to the provisions of the World Trade Organization Agreement on Government Procurement (WTO-AGP), the Canada-Chile Free Trade Agreement (CCFTA), the Canadian Free Trade Agreement (CFTA), the Canada-Peru Free Trade Agreement (CPFTA), the Canada-Columbia Free Trade Agreement (CCoIFTA), the Canada-Panama Free Trade Agreement (CPanFTA), the Canada-Honduras Free Trade Agreement (CHFTA), the Canada-Vanama Free Trade Agreement (CKFTA), Canadian Free Trade Agreement (CFTA), Canada-Ukraine Free Trade Agreement (CUFTA), the Canadian-European Trade Agreement (CETA), the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), and the Canada-United Kingdom Trade Continuity Agreement (Canada-UKTCA).

## PART 2 - BIDDER INSTRUCTIONS

#### 2.1 Standard Instructions, Clauses and Conditions

All instructions, clauses and conditions identified in the bid solicitation by number, date and title are set out in the Standard Acquisition Clauses and Conditions Manual (<u>https://buyandsell.gc.ca/policy-and-</u>

<u>guidelines/standard-acquisition-clauses-and-conditions-manual</u>) issued by Public Works and Government Services Canada.

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

The <u>2003</u> (2022-03-29) Standard Instructions – Goods and Services – Competitive Requirements, are incorporated by reference into and form part of the bid solicitation, with the following modifications:

- a) Section 02, Procurement Business Number is deleted in its entirety.
- b) Section 20(2), Further Information is deleted in its entirety.
- c) Subsection 2.d. of Section 05, Submission of Bids, is deleted in its entirety and replaced with the following:

Send its bid only to the address specified in the bid solicitation.

- d) Section 06, Late Bids, Is deleted in its entirety;
- e) The text under Section 07, Delayed Bids, is deleted in its entirety and replaced with the following:

It is the Bidder's responsibility to ensure that the Contracting Authority has received the entire submission. Misrouting or other electronic delivery issues resulting in late submission of bids will not be accepted.

- f) Subsection 1 of Section 08, Transmission by Facsimile or Epost Connect, is deleted in its entirety.
- g) Subsection 5.4 of <u>2003</u>, Standard Instructions Goods or Services –Competitive Requirements, is amended as follows:

Delete: 60 days Insert: 120 days

#### 2.1.1 SACC Manual Clauses

SACC Manual Clause <u>B4057T</u> (2017-11-28), Technical publications: Manuals — Bid

#### 2.2 Electronic Submission of Bids

a) Bids must be submitted only to the Department of National Defence by the date, time and place indicated on page 1 of the bid solicitation. Bids must be received electronically as noted in subparagraph b).

b) Electronic Submissions: Individual e-mails exceeding five (5) megabytes, or that includes other factors such as embedded macros and/or links, may be rejected by the DND e-mail system and/or firewall(s) without notice to the Bidder or Contracting Authority. Larger bids may be submitted through more than one e-mail. The Contracting Authority will confirm receipt of documents. It is the Bidder's responsibility to ensure that the Contracting Authority has received the entire submission. Bidders should not assume that all documents have been received unless the Contracting Authority confirms receipt of each document. In order to minimize the potential for technical issues, Bidders are requested to allow sufficient time before the closing time and date to confirm receipt. Technical and financial documents received after the closing time and date will not be accepted. Due to the nature of the bid solicitation, bids transmitted by facsimile or Epost Connect will not be accepted.

## 2.3 Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than **10 calendar** days before the bid closing date. Enquiries received after that time may not be answered.

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

#### 2.4 Applicable Laws

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

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

#### **PART 3 - BID PREPARATION INSTRUCTIONS**

#### 3.1 Bid Preparation Instructions

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

Section I: Technical Bid 1 soft copy (PDF)

Section II: Financial Bid 1 soft copy (PDF)

Section III: Certifications 1 soft copy (PDF)

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

Bidders may use Attachment 1 to Part 3 to indicate their prices. If Bidders choose to use Attachment 1 to Part 3 to indicate their prices, Bidders must include Attachment 1 to Part 3 in their financial bid.

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

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

## Section I: Technical Bid

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

#### Section II: Financial Bid

Bidders must submit their financial bid as follows:

 Bidders must submit firm prices, Delivered Duty Paid (DDP) at the locations as mentioned in Annex E, Delivery Locations and Dates, Incoterms 2010, Applicable Taxes excluded. The total amount of Applicable Taxes must be shown separately, and,

Bids must be submitted in Canadian dollars.

#### 3.1.1 Electronic Payment of Invoices – Bid

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

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

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

#### 3.1.2 Exchange Rate Fluctuation

SACC Manual clause C3011T (2013-11-06), Exchange Rate Fluctuation

## Section III: Certifications

Bidders must submit the certifications and additional information required under Part 5.

#### PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

#### 4.1 Evaluation Procedures

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

#### 4.1.1 Technical Evaluation

#### 4.1.1.1 Mandatory Technical Evaluation Criteria

The mandatory technical evaluation criteria are detailed in Attachment 1 to Annex A.

#### 4.1.2 Financial Evaluation

The financial evaluation will be conducted by calculating the Total Aggregated Bid Price in accordance with the pricing tables provided in Attachment 1 to Part 3.

#### Evaluation of Price – Bid

The price of the bid will be evaluated in Canadian dollars, Delivered Duty Paid (DDP) at NPB, 45 Sacré-Coeur, Gatineau, Québec, J8X 1C6 destinations noted in Annex A. Incoterms 2010, Canadian customs duties and excise taxes included, Applicable Taxes excluded.

## 4.2 Basis of Selection

SACC Manual Clause A0031T (2010-08-16), Basis of Selection - Mandatory Technical Criteria

## PART 5 – CERTIFICATIONS AND ADDITIONAL INFORMATION

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

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

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

#### 5.1 Certifications Required with the Bid

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

#### 5.2 Certifications Precedent to Contract Award and Additional Information

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

#### 5.2.1 Integrity Provisions – Required Documentation

In accordance with the <u>Ineligibility and Suspension Policy (http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html</u>), the Bidder must provide the required documentation, as applicable, to be given further consideration in the procurement process.

#### 5.2.2 Security Requirements – Required Documentation

In accordance with the <u>requirements of the Contract Security Program</u> of Public Works and Government Services Canada (<u>http://www.tpsgc-pwgsc.gc.ca/esc-src/introduction-eng.html</u>), the Bidder must provide a completed Contract Security Program Application for Registration (AFR) form to be given further consideration in the procurement process.

Bidders are reminded to obtain the required security clearance and, as applicable, security capabilities promptly. As indicated above, bidders who do not provide all the required information at bid closing will be given the opportunity to complete any missing information from the AFR form within a period set by the Contracting Authority. If that information is not provided within the timeframe established by the Contracting Authority (including any extension granted by the Contracting Authority in its discretion), or if Canada requires further information from the Bidder in connection with assessing the request for security clearance (i.e., information not required by the

AFR form), the Bidder will be required to submit that information within the time period established by the Contracting Authority, which will not be less than 48 hours. If, at any time, the Bidder fails to provide the required information within the timeframe established by the Contracting Authority, its bid will be declared non-compliant.

## 5.2.3 Additional Certifications Precedent to Contract Award

Contractor must be an approved supplier. If the Contractor is not an approved supplier, the Contractor must obtain a letter from the Original Equipment Manufacturer demonstrating the Contractor is an approved supplier. The Contractor must fill and complete the form at Annex F and provide with the submission.

## 5.2.4 Federal Contractors Program for Employment Equity - Bid Certification

By submitting a bid, the Bidder certifies that the Bidder, and any of the Bidder's members if the Bidder is a Joint Venture, is not named on the Federal Contractors Program (FCP) for employment equity "FCP Limited Eligibility to Bid" list available at the bottom of the page of the Employment and Social Development Canada (ESDC) - Labour's website (http://www.esdc.gc.ca/en/jobs/workplace/human\_rights/employment\_equity/federal\_contractor\_p rogram.page?& ga=1.229006812.1158694905.1413548969#afed).

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

## 5.2.5 Additional Certifications Precedent to Contract Award

Contractor must provide certification as per Annex "F".

## PART 6 - RESULTING CONTRACT CLAUSES

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

## 6.1 Security Requirements

**6.1.1** The following security requirements (SRCL and related clauses provided by ISP) apply and form part of the Contract.

1. The Contractor must, at all times during the performance of the Contract, hold a valid Designated Organization Screening (DOS), issued by the Canadian Industrial Security Directorate (CISD), Public Works and Government Services Canada (PWGSC).

2. The Contractor personnel requiring access to sensitive work site(s) must EACH hold a valid **RELIABILITY STATUS**, granted or approved by CISD/PWGSC.

3. Subcontracts which contain security requirements are NOT to be awarded without the prior written permission of CISD/PWGSC.

- 4. The Contractor must comply with the provisions of the:
  - a. Security Requirements Check List and security guide (if applicable), attached at Annex D;

b. Industrial Security Manual (Latest Edition).

## 6.2 Statement of Work

The Contractor must perform the Work in accordance with the Statement of Work at Annex A.

## 6.3 Optional Requirement

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

The Contracting Authority may exercise the option at any time before the expiry of the Contract by sending a written notice to the Contractor.

## 6.4 Standard Clauses and Conditions

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

#### 6.4.1 General Conditions

SACC Manual clause <u>2010A</u> (2022-01-28) General Conditions - Goods (Medium Complexity), apply to and form part of the Contract, with the following modifications:

a. Definition of Minister is modified as follows:

"Canada", "Crown", "Her Majesty" or "the Government" means Her Majesty the Queen in right of Canada as represented by the Minister of National Defence and any other person duly authorized to act on behalf of that minister or, if applicable, an appropriate minister to whom the Minister of National Defence has delegated his or her powers, duties or functions and any other person duly authorized to act on behalf of that minister.

#### 6.4.2 Supplemental General Conditions

4001 (2015-04-01) Hardware Purchase, Lease and Maintenance;

4003 (2010-08-16) Licensed Software; and

<u>4004</u> (2013-04-25) Maintenance and Support Services for Licensed Software; Section 4004 01 para 1, "Software Support Period" is defined as seven (7) years.

#### 6.5 Term of Contract

#### 6.5.1 Period of the Contract

The period of the Contract is from contract award to seven (7) year after contract award date.

#### 6.5.2 Delivery Date

All the deliverables must be delivered as per Annex A, paragraph 3.5.

#### 6.5.3 Delivery Points

Delivery of the requirement will be made to delivery point(s) specified within Annex E, of the Contract.

#### 6.5.4 Shipping Instructions

Goods must be consigned and delivered to the destination specified in the contract:

1. Incoterms 2010 "DDP Delivered Duty Paid" at the delivery locations as noted in Annex E.

#### 6.6 Authorities

#### 6.6.1 Contracting Authority

The Contracting Authority for the Contract is:

Name:	Myriam Zakaib DLP 9-2-2
	Department of National Defence
Directorate:	Directorate of Land Procurement
Address:	National Defence Headquarters
	101 Colonel By Drive
	Ottawa, ON, K1A 0K2
Telephone:	
E-mail address:	Myriam.Zakaib@forces.gc.ca

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

#### 6.6.2 Technical Authority

The Technical Authority for the Contract is:			
Name:	to be inserted at contract award		
	Department of National Defence		
Organization:	QETE		
Address:	National Defence Headquarters		
	101 Colonel By Drive		
	Ottawa, ON, K1A 0K2		
Telephone:	to be inserted at contract award		
E-mail address:	to be inserted at contract award		

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

## 6.6.3 Contractor's Representative

#### **General enquiries**

Name:	
Telephone No.	
Email address:	

Delivery follow-up		
Name:		
Telephone No.		
Email address:		

## 6.7 Payment

#### 6.7.1 Basis of Payment

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid firm unit prices as specified in Annex B for a cost of \$\_\_\_\_\_ (Insert amount at contract award). Customs duties are included and Applicable Taxes are extra.

Canada will not pay the Contractor for any design changes, modifications or interpretations of the Work, unless they have been approved, in writing, by the Contracting Authority before their incorporation into the Work.

#### 6.7.2 Limitation of Price

SACC Manual clause C6000C (2017-08-17) Limitation of Price

#### 6.7.3 Method of Payment

SACC Manual clause H1001C (2008-05-12) Multiple Payment

#### 6.7.4 SACC Manual Clauses

SACC Manual clause A2001C (2006-06-16) Foreign Nationals (Foreign Contractor) SACC Manual clause A9062C (2011-05-16) Canadian Forces Site Regulations SACC Manual clause B1501C (2018-06-21) Electrical Equipment SACC Manual clause B7500C (2006-06-16) Excess Goods SACC Manual clause C2000C (2007-11-30), Taxes – Foreign-based Contractors SACC Manual clause C2801C (2017-08-17) Priority Rating - Canadian-based Contractors SACC Manual clause D9002C (2007-11-30) Incomplete Assemblies

#### 6.7.5 Electronic Payment of Invoices – Contract

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

- a. Direct Deposit (Domestic and International);
- b. Electronic Data Interchange (EDI);
- c. Wire Transfer (International Only).

## 6.8 Invoicing Instructions

 The Contractor must submit invoices in accordance with the section entitled "Invoice Submission" of the general conditions. Invoices cannot be submitted until all work identified in the invoice is completed.

Each invoice must be supported by:

- 2. Invoices must be distributed as follows:
  - a. One (1) copy must be forwarded to the Contracting Authority identified under the section entitled "Authorities" of the Contract.

#### 6.9 Certifications

#### 6.9.1 Compliance

Unless specified otherwise, the continuous compliance with the certifications provided by the Contractor in its bid or precedent to contract award, and the ongoing cooperation in providing additional information are conditions of the Contract and failure to comply will constitute the Contractor in default. Certifications are subject to verification by Canada during the entire period of the Contract.

#### 6.10 Applicable Laws

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

#### 6.11 **Priority of Documents**

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

- (a) the Articles of Agreement;
- (b) The supplement general conditions:
  - a. <u>4001</u> (2015-04-01) Hardware Purchase, Lease and Maintenance;
  - b. 4003 (2010-08-16) Licensed Software; and
  - c. <u>4004</u> (2013-04-25) Maintenance and Support Services for Licensed Software;
- (c) The General Conditions <u>2010A</u> (2022-01-28) General Conditions Goods, Medium Complexity;
- (d) Annex A, Statement of Work
- (e) Annex B, Pricing Schedule
- (f) Annex C, Security Requirements Check List;
- (g) the Contractor's bid dated \_\_\_\_\_

#### 6.12 Defence Contract

SACC Manual clause A9006C (2012-07-16) Defence Contract

#### 6.13 Insurance

SACC Manual clause G1005C (2016-01-28) Insurance – No Specific Requirement

#### 6.14 Packaging Requirement

The Contractor must prepare item number(s) 1 for delivery in accordance with the latest issue of the Canadian Forces Packaging Specification *D-LM-008-036/SF-000*, DND Minimum Requirements for Manufacturer's Standard Pack.

The Contractor must package item number(s) 1 in quantities of 1 by package.

SACC Manual clause D2000C (2007-11-30), Marking

SACC Manual clause D2001C (2007-11-30), Labelling

SACC Manual clause D2025C (2017-08-17), Wood Packing Materials

## 6.15 Quality Assurance

SACC Manual clause <u>D5545C</u> (2019-05-30), ISO 9001:2008 – Quality Management Systems Requirement (Quality Assurance Code C)

## 6.16 Technical publications: Manuals

The Contractor must provide and clearly label all technical publications required for description, operation, installation, maintenance and repair of the deliverable end items as follows:

## **Bilingual publications**

#### Existing manuals

The Contractor must provide the following publications as existing commercial or foreign government off-the-shelf manuals, in both English and French, in side-by-side format, in full compliance with the latest issue of C-01-100-100/AG-005, Specification Acceptance of Commercial and Foreign Government Publications as Adopted Publications. The Contractor must deliver the existing manuals to the Technical Authority on or before \_\_\_\_\_\_ (date to be inserted at contract award).

#### **Unilingual publications**

#### Existing manuals

The Contractor must provide the following publications as existing commercial or foreign government off-the-shelf manuals, in full compliance with the latest issue of C-01-100-100/AG-005, Specification Acceptance of Commercial and Foreign Government Publications as Adopted Publications. The Contractor must deliver the existing manuals to the Technical Authority on or before \_\_\_\_\_\_ (date to be inserted at contract award).

#### Right to translate and reproduce

The Contractor gives Canada the right to translate and reproduce, for government purposes, any or part of any publication provided under the Contract as existing unilingual commercial manuals.

## ANNEX "A"

## STATEMENT OF WORK

## Fourier Transform Infrared (FTIR) Spectrometer based Aviator's Breathing Oxygen Test Systems

## 1. SCOPE

- 1.1. Objective
- 1.1.1. The purpose of this Statement of Work (SOW) is to define the technical requirements for specialized equipment for the testing of contaminants in Aviator's Breathing Oxygen (ABO) samples.
- 1.1.2. Canada may have a requirement to purchase up to eight ABO Test Systems.

#### 1.2. Background

- 1.2.1 The Quality Engineering Test Establishment (QETE) is a field unit within the Canadian Armed Forces (CAF) with the mandate to provide the Department of National Defence (DND) and the CAF with specialized, technology-based test and investigative services required to support engineering decisions throughout all phases of materiel acquisition and support. QETE provides technical advice and consultation, material evaluation, investigation and analysis, calibration and measurement, in the domains of mechanical and materials engineering, applied science, electrical engineering, measurement science and imagery.
- 1.2.2 The QETE 3-2 Applied Chemistry & Environmental Science group is composed of three Technology Specialty Areas (TSAs): (a) Analytical Chemistry; (b) Environmental Science; and (c) Corrosion Prevention and Mitigation. The Analytical Chemistry laboratory provides a wide range of qualitative and quantitative, trace and bulk material analyses using 'state of the art' analytical instrumentation. Specialized analyses include energetic materials, gases (breathing, weapon systems, life support systems), air contaminants in confined crew stations as well as alloy identification and corrosion-related problems.

#### 1.3. CAF Oxygen Testing Program

1.3.1. Each shipment of oxygen delivered to the Royal Canadian Air Force Wings must be tested to ascertain its integrity before it can be released for use. Due to extreme stresses experienced by aviators, there is a stringent requirement with respect to purity, moisture content and other minor contaminants of aviator's breathing oxygen for military aircraft. Due to the operational environment, verification of breathing oxygen for aircraft systems requires a quick response and therefore DND needs on-site testing capabilities at key locations, including 19 Wing Comox, British Columbia, 2 Wing and 3 Wing Bagotville, Quebec, 4 Wing Cold Lake, Alberta and 8 Wing Trenton, Ontario as well as a portable testing capability to accompany aircraft servicing and maintenance teams on deployment. QETE's role in the testing program is to provide technical oversight, guidance for the development policies and procedures, and quality assurance advice.

#### 1.4. Terminology

ABO	Aviator's Breathing Oxygen	
CAF	Canadian Armed Forces	
CSA	Canadian Standards Association	
DND	Department of National Defence	
FSR	Factory Service Representative	
IEC	International Electrotechnical Commission	

ISO	International Organization for Standardization		
MIL-DTL	Military Detailed Specification		
MIL-STD	Military Standard		
NPB	National Printing Bureau		
OEM	Original Equipment Manufacturer		
PC	Personal Computer running a Microsoft Windows type Operating System		
ppm/v	parts per million by volume		
QETE	Quality Engineering Test Establishment		
RSDr	% Relative Standard Deviation of repeatability		
SOW	Statement of Work		
UPS	Uninterruptible Power Supply		
VAC	Volts Alternating Current		

Table 1-1 Acronyms and Abbreviations

## 2. REFERENCE DOCUMENTS

- 2.1. The latest issue of the following standards, references and documents apply to this SOW:
  - (a) Canadian Electrical Code.<sup>1</sup>
  - (b) NATO Standard AAGSP-02 Characteristics of gaseous breathing oxygen, liquid breathing oxygen and supply pressures, hoses and replenishment couplings.<sup>2</sup>
  - (c) ASTM E29 13 Standard Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications.
  - (d) ASTM G-88, Standard Guide for Designing Systems for Oxygen Service.
  - (e) MIL-STD 810G, Department of Defense Test Method Standard: Environmental Engineering Considerations and Laboratory Tests.

## 3. REQUIREMENTS

- 3.1. Scope of Work
  - 3.1.1. QETE has a requirement for oxygen testing systems to test samples of Aviator's Breathing Oxygen (ABO) prior to operational deployment of bulk quantities of ABO. The scope of work includes the delivery and commissioning of the equipment to five locations in Canada and the delivery of training for scientists and technicians at each location.
  - 3.1.2. The equipment to be purchased will be used by DND/CF personnel in support of the DND ABO Test Program, which is conducted in accordance with applicable Canadian Forces Technical Orders (CFTOs). The CFTOs state that when tested in accordance with the approved test methods, gaseous oxygen shall contain not less than 99.5 per cent oxygen by volume. A purity of less than 99.5 per cent oxygen by volume shall be cause for rejection. The remainder, except for specified levels of moisture and minor constituents, shall be argon and nitrogen.
  - 3.1.3. The oxygen to be tested is stored in liquid state and converted to gaseous state for testing purposes. There is no requirement for the delivered equipment to test oxygen in a liquid state. However, the NATO test parameters for liquid oxygen are applied since the source supply of the oxygen is in liquid format.

<sup>&</sup>lt;sup>1</sup> Available at: <u>https://www.csagroup.org/standards/areas-of-focus/electrical/</u>

<sup>&</sup>lt;sup>2</sup> Available at: <u>https://nso.nato.int/nso/nsdd/listpromulg.html</u>

- 3.1.4. The equipment consists of a quantity of up to eight identical ABO Test Systems to be delivered to the following locations:
  - (a) Quality Engineering Test Establishment, Gatineau, Quebec one system required for delivery to QETE with an option for a second system to be delivered to QETE
  - (b) 2 Wing Bagotville, Quebec option for one system for delivery
  - (c) 3 Wing Bagotville, Quebec option for one system for delivery
  - (d) 8 Wing Trenton, Ontario option for one system for delivery
  - (e) 4 Wing Cold Lake, Alberta option for up to two systems for delivery
  - (f) 19 Wing Comox, British Columbia option for one system for delivery
- 3.1.5. Each ABO Test System must include:
  - (a) Fourier Transform Infrared (FTIR) Spectrometer;
  - (b) Purge Gas Generator, if required by manufacturer's design;
  - (c) All necessary cables, gas lines, and connectors required for a fully functional system;
  - (d) Uninterruptible Power Supply (UPS);
  - (e) Operating and Analytical Software;
  - (f) Portable Computer (PC); and
  - (g) Ruggedized case(s) for the ABO Test System.
- 3.1.6. General Requirements:
  - 3.1.6.1. All electrical components of the equipment must be certified or approved for use in accordance with the Canadian Electrical Code, Part 1, before delivery, by a certification organization accredited by the Standards Council of Canada.
  - 3.1.6.2. The ABO Test System must be oxygen-safe, including handling samples of pure gaseous oxygen.
  - 3.1.6.3. The ABO Test System must be compliant with the guidelines specified in ASTM G-88, Standard Guide for Designing Systems for Oxygen Service.
  - 3.1.6.4. The ABO Test System must meet the manufacturer's published specifications and any additional specifications identified in their proposal for any functional or performance parameter not specified in this Statement of Work.
- 3.1.7. Functional Requirements:
  - 3.1.7.1. The ABO Test System must use a single analysis method to accurately quantify the concentrations in parts per million by volume (ppm/v.) for the chemical compounds listed in Appendix 1 to Annex A, including the specific compounds listed in the notes 3, 4, 5 and 8.
  - 3.1.7.2. For the grouped chemical classes listed in in Appendix 1 to Annex A, the ABO Test System must provide for each individual compound in the class an accurate quantification result at the concentrations described as follows:
    - (a) Ethane and higher aliphatic hydrocarbons = 0.5 ppm (each).
    - (b) Halogenated compounds = 0.1 ppm (each).
    - (c) Solvents 0.1 ppm (each).
    - (d) Other 0.1 ppm (each).

- 3.1.8. Performance and Physical Requirements: the ABO Test Systems must deliver, enable and support the following performance specifications and physical parameters:
  - (a) Must use FTIR spectroscopy technology.
  - (b) Detector: Detector must not require the need for cryogenic liquid cooling. Thermoelectric cooling (Peltier) is acceptable.
  - (c) Quantitative analysis relative accuracy: between 80% and 120% when compared against the concentration of a certified reference standard gas mixture at the concentrations listed in 3.1.7.
  - (d) The system must be factory calibrated for the quantitative analysis of all the compounds of interest at appropriate calibration ranges to meet the requirements of 3.1.8 (c). The system must not require user re-calibration of the target compounds listed in 3.1.7. A factory re-calibration of this target compound list must be required only in the event of major repairs performed at the factory.
  - (e) Quantitative analysis repeatability:  $\pm$  5% RSDr between replicates of a certified reference standard.
  - (f) Must contain a gas line manifold that will switch the gas line supplies between:
    - a. zero gas,
    - b. sample gas, and
    - c. system check gas mixture.
  - (g) The manifold must be controlled by the ABO test system software or manually by the user.
  - (h) The ABO Test System must deliver, enable and support sample introduction via standard ¼ inch stainless steel Swagelok fittings on source gas regulators.
  - (i) For each gas input required by the system design, the Contractor must supply a fit for purpose gas supply regulator and a compatible flexible gas line of a minimum of 15 meters in length.
  - (j) The ABO Test System, including the ruggedized transport case if the instrument is designed to be operated from the case, must be of dimensions of no more than two metres wide and one metre deep, excluding the gas lines and the laptop PC.
  - (k) Operational Duty Cycle: must be ready for measurement within one hour of powering up or exiting the stand-by mode.
  - (I) Purge Gas Generator: if a purge gas generator is required by manufacturer's design, then it must include an appropriate compressor as a source of compressed air, fit for the purpose.
- 3.1.9. Analysis Software Requirements: The analysis software must deliver, enable and support the following:
  - 3.1.9.1. Allow basic users to operate the instrument and obtain results in a simple pass/fail format. Basic users will be aviation technicians who have been trained and qualified to handle ABO equipment and supplies for use on DND military aircraft. A graphical user interface is required for this purpose that will allow the basic user to start the analysis and then obtain results without the need for any further interaction or data input once the analysis has started.
  - 3.1.9.2. Advanced users must be able to manipulate all instrumental settings, including the addition and removal of contaminants, change the calibration ranges and pass/fail concentration criteria, to/from the test routines via the graphical user interface.

Advanced users are trained scientists with laboratory experience in the use and application of FTIR spectrometers including development of gas analysis protocols, continuous signal acquisition and monitoring, and data processing.

- 3.1.9.3. Advanced users must be able to independently perform addition and calibration of new individual compounds without support from the Contractor or manufacturer.
- 3.1.9.4. Generate test result concentration reports for all compounds listed at 3.1.7 at the required significant digits as described in Appendix 1 to this Statement of Work. Rounding-off procedures specified in ASTM E29 13 Standard Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications will apply.
- 3.1.9.5. Basic users must not be able to modify any data acquisition or processing parameters that could invalidate results unless authorized via the use of a password or equivalent protection mechanism.
- 3.1.9.6. The graphical user interface must warn the basic user that an unknown material is present in the sample.
- 3.1.9.7. The graphical user interface must warn the basic user that a false positive or a false negative measurement may have occurred.
- 3.1.9.8. The rate of false positives must be no greater than 1 in 1000 analyses and the rate of false negatives no greater than 1 in 10000 analyses.
- 3.1.9.9. The capability for advanced users to export the spectral data to common spectral exchange formats (GRAMS, JCAMP-DX, etc.) to allow identification of unknown compounds via the use of commercially available qualitative and quantitative FTIR spectral libraries of gases and vapors.
- 3.1.9.10. Data analytics to support decision making for system maintenance and parts replacement, including performance parameters for the laser and infrared source.
- 3.1.9.11. Export of experimental data to an external device, such as a USB key, for longdistance troubleshooting and analysis by advanced users.
- 3.1.10. Laptop PC Requirements:
  - 3.1.10.1. One (1) laptop PC is required for each ABO Test System.
  - 3.1.10.2. Each PC must run the software as outlined in Section 3.1.9.
  - 3.1.10.3. Each PC must meet the following minimum hardware requirements:
    - (a) Ruggedized laptop, such as a Panasonic Toughbook CF-33 (equivalent or better is acceptable) that is MIL-STD-810G certified;
    - (b) Windows 10 Professional with 64-bit Operating System
    - (c) Optical USB mouse (no wireless);
    - (d) All cable assemblies required to connect to the spectrometer; and
    - (e) Sunlight viewable screen.
  - 3.1.10.4. The laptop PC must be configured by the Contractor and delivered with the necessary software preloaded and installed.

## 3.1.11. Ruggedized Case:

- 3.1.11.1. Each ABO Test System must include a watertight, crushproof and dustproof ruggedized case, such as an appropriately sized case from the Protector<sup>™</sup> product line of cases manufactured by Pelican Products, Inc. (or equivalent).
- 3.1.11.2. The total number of cases provided for each ABO Test System must be no more than two. If the system requires a purge gas generator and air compressor, an additional case is permitted.
- 3.1.11.3. It is preferable, but not mandatory, that the ABO Test System be designed to be operated from the case without the need to unpack the system for set-up on a benchtop surface.
- 3.1.11.4. Each ruggedized case must include handles.
- 3.1.11.5. Each ruggedized case must include a hasp to facilitate a padlock for securing the case against unauthorized entry.
- 3.1.11.6. The ruggedized case(s) must include wheels to facilitate transport. If all components of the system can fit into one case except the laptop PC, then wheels are not required for the laptop PC case.
- 3.1.12. Environmental Operating and Transport Conditions
  - 3.1.12.1. The ABO Test System must operate without physical damage and without degradation of performance following exposure to air transport, land vehicle, or trailer ride over paved and gravel roads and unmaintained trails as unsecured or secured cargo in its transit case while in a non-operational state.
  - 3.1.12.2. The ABO Test System must operate without physical damage and without degradation of performance following transport and storage at temperatures between -32°C and +60°C in relative-humidity between 5% and 95% noncondensing.
  - 3.1.12.3. The ABO Test System must operate without physical damage and without degradation of performance at temperatures between +5°C and +30°C in relative-humidity between 5% and 95% noncondensing.
  - 3.1.13. Power Requirements:
    - 3.1.13.1. The ABO Test System must be powered by a standard 120 VAC / 60 Hz power outlet.
    - 3.1.13.2. The ABO Test System must include a battery backup uninterruptible power supply (UPS) designed for use with scientific equipment to protect the ABO Test System (purge gas generator and compressor, if required, are excluded here) from short term power outages (minimum of 10 minutes) and voltage drops/spikes.

## 3.2. <u>Tasks</u>

- 3.2.1. Project Kick-Off Meeting
  - 3.2.1.1. A Project Kick-Off Meeting will be held within three (3) weeks of Contract Award to discuss the project schedule and other technical details of the project. This meeting will be held via teleconference. The DND Technical Authority will issue the meeting agenda to the Contractor at least one (1) week prior to the meeting.
  - 3.2.1.2. The Contractor must record and submit the Meeting Notes from the Project Kick-Off Meeting for the review and approval of the DND Technical Authority within one (1) week of the meeting.

## 3.2.2. Installation and Commissioning

- 3.2.2.1. The Contractor must install the equipment in DND's facilities at the following locations:
  - (a) System 1: QETE 3-2 Analytical Chemistry Laboratory in the National Printing Bureau building at 45 Sacré-Coeur Blvd, Gatineau, Québec
  - (b) Optional Service for System 2: QETE 3-2 Analytical Chemistry Laboratory in the National Printing Bureau building at 45 Sacré-Coeur Blvd, Gatineau, Québec
  - (c) Optional Service for System 3: 2 Wing Bagotville, Quebec, Building/Room to be determined: one (1) system
  - (d) Optional Service for System 4: 3 Wing Bagotville, Quebec, Building/Room to be determined: one (1) system
  - (e) Optional Service for System 5: 8 Wing Trenton, Ontario, Building/Room to be determined: one (1) system
  - (f) Optional Service for System 6: 4 Wing Cold Lake, Alberta, Building/Room to be determined
  - (g) Optional Service for System 7: 4 Wing Cold Lake, Alberta, Building/Room to be determined
  - (h) Optional Service for System 8: 19 Wing Comox, British Columbia, Building/Room to be determined
- 3.2.2.2. The Contractor must perform all actions needed to commission the equipment for operational use by DND staff. Commissioning includes conducting all visual inspections, system checks, tests and any other activities specified by the manufacturer's standard operating procedures for commissioning new equipment to ensure that the equipment will function in accordance with the requirements of this SOW as well as the manufacturer's specifications.
- 3.2.2.3. The installation, levelling, securing, initial start-up, and calibration of equipment must be performed by the Contractor's authorized factory service representatives (FSRs).
- 3.2.2.4. The Contractor must supply all tools and supplies needed by the Contractor's FSRs to complete the installation and commissioning, with the exception of supplies of ABO.
- 3.2.2.5. Acceptance Testing: As part of the commissioning process, the Contractor must analyze a certified gas sample provided by DND using the installed equipment to provide proof that the equipment can achieve the measurement limits specified in Appendix 1 to the SOW. The results produced by the Contractor's FSR will be compared against the certified gas mixture report. Any discrepancies outside of the specified tolerance limits must be corrected by the Contractor before the equipment will be accepted. Any necessary corrections to achieve the performance requirements must be completed by the Contractor within 30 days of being informed by the Technical Authority that the equipment failed a commissioning test.
- 3.2.2.6. DND may choose to accept the equipment without conducting the certified gas sample analysis comparison test as part of the commissioning process. If DND waives the requirement to perform this acceptance test, the Contractor will still be responsible for delivering equipment that meets all of the Contract requirements.
- 3.2.2.7. QETE Performance Assessment: Following the installation and commissioning of the first unit, QETE staff will test its performance.

- 3.2.2.8. Installation and commissioning services for all other units may be ordered as options under the contract. Canada may elect to take delivery of additional units under Contract options with or without installation and commissioning services.
- 3.2.3. Training The Contractor must provide the following training services and products (where indicated, some training services and related products will be options under the contract):
  - 3.2.3.1. Provide on-site initial cadre training in English on the proper operation and maintenance of the equipment for up to 10 personnel at each of the Wings and for up to six personnel at QETE.
  - 3.2.3.2. Training will include an overview of the ABO Test System, its operation, safety features, maintenance to be performed by the operator, and a hands-on tutorial using the delivered equipment and ABO test samples to be provided by DND. Also, takedown, packing and installation of deployable ABO Test System will be demonstrated.
  - 3.2.3.3. All hand-out training material provided to the students must be provided in English and French.
  - 3.2.3.4. Training will be provided at three levels:
    - (a) Advanced User Training: Advanced User Training will occur at QETE in Gatineau, Québec following the installation and commissioning of the first unit and will involve a review of the full functionality of the equipment. This training will be provided to technical staff who are experienced with the operation and maintenance of the existing equipment, including the full range of advanced technical functions. This training is expected to be one day long and will occur on the next business day following the installation and commissioning of the equipment. This training will involve up to three Advanced Users.
    - (b) Train-the-Trainer Training: Train-the-Trainer Training will occur at QETE in Gatineau, Québec on the next business day following the Advanced User Training. Wing ABO Test Equipment Trainers from each of the three Wings will participate in this training. These Trainers will be experienced technicians who are knowledgeable about the operation of the current equipment at the basic level. Following this training, the Trainers will provide instruction to other technicians at the Wings on how to safely operate the equipment and how to achieve the results expected of a basic user. This training will involve up to three Trainers as well as the Technical Authority who will observe the training.
    - (c) Basic User Training: Basic User Training is an optional service that will occur at the Wings following the installation and commissioning of the units that may occur on the same day, time permitting, or on the following day if required. It is expected to take approximately 2 hours and will involve instructing technicians who are experienced with the operation of the existing equipment on how to safely operate the equipment and how to achieve the results expected of a basic user.
  - 3.2.3.5. The Contractor will provide the following training documentation:
    - (a) Training Summary Report(s) that identifies all students who participated in the training, the dates and location(s) of the training, and the instructor(s), and
    - (b) Training Certificate for each student that identifies the student's name and organization, the training activity, the date and location of the training, the approved training organization's name, logo, and authorized signature.
- 3.2.4. Technical Service Support

- 3.2.4.1. Availability The Contractor must:
  - (a) ensure that full service support and replacement parts are available for a period of seven years following the date of delivery of the equipment; and
  - (b) without limiting the generality of Section 3.2.3.1.(a), provide Canada with a one year written notification prior to the equipment parts becoming unavailable. In the event that the Contractor fails to provide such notice, the Contractor must provide Canada sufficient notice to ensure that Canada may purchase the parts that will become obsolete.
  - 3.2.4.2. Service Desk A support service desk function must be provided to help Canada in answering questions with respect to the equipment that includes, at a minimum:
    - (a) telephone technical support between the hours of 08:00 and 17:00 (Eastern Time), Monday to Friday, excluding public holidays;
    - (b) e-mail technical support with a response within 48 hours excluding weekends and public holidays; and
    - (c) on-line help resources, including contact information, product information and documentation downloads (e.g. product brochures, technical manuals).
  - 3.2.4.3. Product Notifications Canada must be advised in writing as soon as reasonably possible in the event of:
    - (a) any safety-related product recalls or advisories, component defects, and other similar events;
    - (b) any security vulnerabilities that are subsequently discovered;
    - (c) any hidden or previously unknown defects that are subsequently discovered that may adversely affect product performance and/or functionality; and
    - (d) updates to software and product manuals.
  - 3.2.4.4. Software Support: All provided proprietary software must be of the most current version and must be provided with a full end-user licence not limited in time, and provided with a backup CD/DVD disk(s)/USB.
  - 3.2.4.5. Preventive Maintenance Canada may require preventive maintenance services for the equipment over a period of seven years following contract award. This service will be provided as an option, to be exercised at the sole discretion of Canada. If the option is exercised, preventive maintenance will:
    - (a) be performed for the purpose of maintaining the equipment in satisfactory operating condition by providing for systematic inspection, detection, and correction of incipient failures either before they occur or before they develop into major defects;
    - (b) include tests, measurements, adjustments, and parts replacement, performed specifically to prevent faults from occurring;
    - include replacement of the FTIR spectrometer laser when performance degrades and replacement is recommended by the manufacturer's design parameters;
    - (d) include replacement of the FTIR spectrometer infrared source when performance degrades and replacement is recommended by the manufacturer's design parameters;
    - (e) include replacement of the detector when performance degrades and replacement is recommended by the manufacturer's design parameters; and

(f) include replacement of the detector, the laser and the infrared source in the final year of the Contract, unless any of these items have recently been replaced and are not due for replacement within 12 months following the end date of the Contract.

## 3.2.5. Equipment Certifications

- 3.2.5.1. Certificate of Conformance The Contractor must provide a Certificate of Conformance to attest that the delivered equipment has been manufactured according to the Contractor's published specifications and has been verified to function as designed. The Certificate must identify the location and date of completion of manufacturing and must be signed by an authorized representative of the manufacturer.
- 3.2.5.2. Statement of Compliance The Contractor must provide a Statement of Compliance to attest that the delivered equipment meets the requirements of the Contract. The Statement of Compliance may be provided within the Certificate of Conformance or as a separate document.
- 3.2.5.3. Statement of Continued Production and Support The Contractor must provide a Statement of Continued Production to attest that the equipment is neither manufacturer-discontinued nor is there an intent to discontinue the manufacturing of the equipment within two (2) years. The Statement must also attest that the Contractor will continue to provide technical support and spare parts supply for a minimum of seven years following delivery of the equipment.
- 3.2.6. Equipment Documentation The Contractor must provide the following documentation in support of the delivered equipment:
  - 3.2.6.1. User Operations Manual provides detailed information about the functionality and operation of the equipment and the care, maintenance and calibration/verification steps of the equipment that is normally performed by the user.
  - 3.2.6.2. Maintenance Manual (if available) provides detailed information and instructions for preventive and corrective maintenance.
  - 3.2.6.3. Any updates during the Support Period to the above documents that impact the operation, maintenance and calibration of the delivered equipment.
  - 3.2.6.4. DND will create technical publications based on the documentation delivered with the equipment. Where information required by the applicable DND standard is missing from the delivered documentation, the Contractor must supply, at no additional cost, the missing information in a format that facilitates its integration into the DND technical publication. Applicable DND standards include:
    - a. C-01-100-100/AG-005 Acceptance of Commercial and Foreign Government Publications as Adopted Publications;
    - b. C-01-100-100/AG-006 Writing, Format and Production of Technical Publications;
    - c. C-01-100-100/AG-008 Writer's Guide for Technical Documentation;
    - d. D-01-100-200/SF-000 Preparation of Equipment Data Summaries;
    - e. D-01-100-202/SF-000 Preparation of Equipment Descriptions;
    - f. D-01-100-203/SF-000 Preparation of Operating Instructions;
    - g. D-01-100-204/SF-000 Preparation of Preventative Maintenance Instructions;
    - h. D-01-100-205/SF-000 Preparation of Corrective Maintenance Instructions; and

- i. D-01-100-207/SF-000 Preparation of Parts Identification Lists.
- 3.3. Constraints
  - 3.3.1. All on-site work to deliver, install, test, commission, maintain, and calibrate the equipment and to train DND personnel must be performed during normal business hours (Monday to Friday, 08:00 to 17:00).
  - 3.3.2. The Contractor must provide their own internet connection if required for installation or training.
- 3.4. Support Provided by Canada
  - 3.4.1. Canada will provide the Contractor with:
    - 3.4.1.1. Access to the job site;
    - 3.4.1.2. Access to electric power;
    - 3.4.1.3. ABO supplies, as may be needed for equipment testing, commissioning and training activities; and
    - 3.4.1.4. On-site parking at the Contractor's expense.
- 3.5. <u>Time Frame and Delivery Dates</u>
  - 3.5.1. Equipment delivery will be a phased approach. The first ABO Test System will be delivered to QETE. Following commissioning and training, the QETE Scientists will start using the equipment to fulfill QETE's mandate and to assess the full functionality and performance of the equipment. When this assessment has been completed, Canada may decide to purchase additional units by exercising options under the contract. These options may involve ordering additional units one at a time, or multiple units in a single order and may be exercised at any time within one year of contract award. The expected rollout under this phased approach is as follows:
    - (a) ABO Test System Unit 1 delivered to QETE within 12 weeks of the Contract Award date.
    - (b) QETE Performance Assessment of ABO Test System Unit 1 expected to take 4 to 6 weeks after the completion of Advanced User Training.
    - (c) Options for Additional ABO Test System Units delivered to designated installation location (QETE, 2 Wing and 3 Wing Bagotville, 4 Wing Cold Lake, 8 Wing Trenton, 19 Wing Comox), within 12 weeks of the date of receipt of order.
  - 3.5.2. Equipment documentation within 4 weeks after Contract award.
  - 3.5.3. Installation and commissioning of equipment within 4 weeks after equipment delivery.
  - 3.5.4. Advanced User Training commencing the next business day following installation and commissioning of the equipment.
  - 3.5.5. Train-the-Trainer Training commencing the next business day following the Advanced User Training.
  - 3.5.6. Option for Basic User Training commencing the next business day following installation and commissioning of the equipment, or on same day as the commissioning of the equipment if all work required for the commissioning is completed by 1:00 PM local time.
  - 3.5.7. Certifications at the time of equipment commissioning.

## 4. DELIVERABLES

## 4.1 <u>Required Equipment Deliverables</u>:

Table 4-1 List of Required Equipment Deliverables			
No.	Deliverable Item	Qty	Notes
4.1.1	ABO Test System	1	System 1 for delivery to QETE, Gatineau, Québec

# 4.2 <u>Required Services Deliverables</u>:

Table 4-2 List of Required Services Deliverables			
No.	Deliverable Item	Qty	Notes
4.2.1	Installation and Commissioning of ABO Test System 1	1	For delivery at QETE, Gatineau, Québec
4.2.2	Advanced User Training of up to 3 personnel for ABO Test System 1	1	For delivery at QETE, Gatineau, Québec
4.2.3	Train-the-Trainer Training of up to 3 personnel for ABO Test System 1	1	For delivery at QETE, Gatineau, Québec

# 4.3 <u>Documentation Deliverables</u>:

Table 4-3 List of Documentation Deliverables						
No.	No. Deliverable Item Qty Notes					
4.3.1	Certificate of Conformance	1	1 electronic copy by email			
4.3.2	Statement of Compliance	1	1 electronic copy by email			
4.3.3	Statement of Continued Production and Support	1	1 electronic copy by email			
4.3.4	User Operations Manual	1	1 electronic copy by email			
4.3.5	Maintenance Manual (if available)	1	1 electronic copy by email			
4.3.6	Training Material	1	1 electronic copy by email			
4.3.7	Training Report	1	1 electronic copy by email			
4.3.8	Training Certificate	See Notes	1 certificate for each student who attended the training, electronic copies by email			

## 4.4 <u>Optional Equipment Deliverables</u>:

Table 4-4 List of Optional Equipment Deliverables							
No.	No.         Deliverable Item         Qty         Notes						
4.4.1	ABO Test System 2	1	Optional Item: For delivery to QETE, Gatineau, Québec				
4.4.2	ABO Test System 3	1	Optional Item: For delivery to 2 Wing Bagotville, Québec				
4.4.3	ABO Test System 4	1	Optional Item: For delivery to 3 Wing Bagotville, Québec				
4.4.4	ABO Test System 5	1	Optional Item: For delivery to 8 Wing Trenton, Ontario				
4.4.5	ABO Test System 6	1	Optional Item: For delivery to 4 Wing Cold Lake, Alberta				
4.4.6	ABO Test System 7	1	Optional Item: For delivery to 4 Wing Cold Lake, Alberta				
4.4.7	ABO Test System 8	1	Optional Item: For delivery to 19 Wing Comox, British Columbia				
4.4.8	FTIR Spectrometer Laser Replacement	See Notes	Optional Item: Quantity and timing will depend on usage level for each ABO Test System				
4.4.9	FTIR Spectrometer Infrared Source Replacement	See Notes	Optional Item: Quantity and timing will depend on usage level for each ABO Test System				
4.4.10	Detector	See Notes	Optional Item: Quantity and timing will depend on usage level for each ABO Test System				

# 4.5 Optional Services Deliverables:

	Table 4-5 List of Optional Services Deliverables							
No.	No. Deliverable Item Qty Notes							
4.5.1	Installation and Commissioning of ABO Test System 2	1	Optional Service: For delivery at QETE, Gatineau, Québec					
4.5.2	Installation and Commissioning of ABO Test System 3	1	Optional Service: For delivery at 2 Wing Bagotville, Québec					
4.5.3	Installation and Commissioning of ABO Test System 4	1	Optional Service: For delivery at 3 Wing Bagotville, Québec					
4.5.4	Installation and Commissioning of ABO Test System 5	1	Optional Service: For delivery at 8 Wing Trenton, Ontario					
4.5.5	Installation and Commissioning of ABO Test System 6	1	Optional Service: For delivery at 4 Wing Cold Lake, Alberta					

Table 4-5 List of Optional Services Deliverables						
No.	Deliverable Item	Qty	Notes			
4.5.6	Installation and Commissioning of ABO Test System 7	1	Optional Service: For delivery at 4 Wing Cold Lake, Alberta			
4.5.7	Installation and Commissioning of ABO Test System 8	1	Optional Service: For delivery at 19 Wing Comox, British Columbia			
4.5.8	Training of up to 10 personnel for ABO Test System	1	Optional Service: For delivery at 3 Wing Bagotville, Québec			
4.5.9	Training of up to 10 personnel for ABO Test System	1	Optional Service: For delivery at 8 Wing Trenton, Ontario			
4.5.10	Training of up to 10 personnel for ABO Test System	1	Optional Service: For delivery at 4 Wing Cold Lake, Alberta			
4.5.11	Training of up to 10 personnel for ABO Test System	1	Optional Service: For delivery at 19 Wing Comox, British Columbia			
4.5.12	Preventive Maintenance – Option Year 1	See Notes	Optional Service – may be exercised for one or more of the delivered ABO Test Systems			
4.5.13	Preventive Maintenance – Option Year 2	See Notes	Optional Service – may be exercised for one or more of the delivered ABO Test Systems			
4.5.14	Preventive Maintenance – Option Year 3	See Notes	Optional Service – may be exercised for one or more of the delivered ABO Test Systems			
4.5.15	Preventive Maintenance – Option Year 4	See Notes	Optional Service – may be exercised for one or more of the delivered ABO Test Systems			
4.5.16	Preventive Maintenance – Option Year 5	See Notes	Optional Service – may be exercised for one or more of the delivered ABO Test Systems			
4.5.17	Preventive Maintenance – Option Year 6	See Notes	Optional Service – may be exercised for one or more of the delivered ABO Test Systems			

## 4.6 Format for Documentation

- 4.6.1 Unless otherwise specified, equipment documentation, reports, certificates and compliance statements must be provided in English.
- 4.6.2 The Contractor must provide DND with the right to translate into French all documentation delivered under the scope of work with the same distribution rights as are provided for the English versions.
- 4.6.3 Equipment documentation and reports may be provided in Contractor format.

- 4.6.4 Unless otherwise specified, certificates and compliance statements may be provided in Contractor format.
- 4.6.5 Document files provided in electronic format must provide users with the capability to search documents (e.g. keyword search).
- 4.6.6 Unless otherwise specified, electronic document files must be provided in PDF format.

## Appendix 1 to Annex A – Table 1 of NATO Standard AAGSP-02

Extracted from NATO Standard AAGSP-02 (SOW Reference 2.1 (c)) on 02 Dec 2019 in accordance with copyright and use of NATO content conditions specified at <u>https://www.nato.int/cps/en/natohq/79511.htm.</u> with modifications made to meet DND's specific ABO Testing Program requirements. Maximum allowable concentration for minor contaminants in liquid oxygen (oxygen is supplied in liquid format and converted to gas phase for minor contaminants testing by FTIR).

Extracted from Table 1 of NATO Standard AAGSP-02 Limits for Minor Contaminants in Liquid and Gaseous Breathing Oxygen					
Contaminant (see Note 1)	Maximum Limit (ppm by volume) Liquid Oxygen (Type II) (see Note 2)				
Water	7.0				
Carbon dioxide (CO2)	5.0				
Methane (CH <sub>4</sub> )	25.0				
Acetylene (C <sub>2</sub> H <sub>2</sub> )	0.050				
Ethylene (C <sub>2</sub> H <sub>4</sub> )	0.20				
Ethane and higher hydrocarbons (as ethane) ( $C_2H_6$ )	3.0				
Nitrous oxide (N <sub>2</sub> O)	2.0				
Sum of Halogenated compounds (see Note 3)	1.00				
Sum of Solvents (see Note 4)	0.10				
Sum of Other Contaminants (see Note 5)	0.10 (See Notes 6, 7 & 8)				
This column also indicates the required significant digits to be retained for reporting each compound.					

#### NOTES

- 1. Note 1 is not applicable for this Statement of Work.
- 2. Type I = Gaseous oxygen; Type II = Liquid oxygen; a terminology used by some nations.
- 3. Includes: Hydrochlorofluorocarbons (HCFC-), Hydrofluoroethers (HFE-) and refrigerants (R-). The presence of these solvents in an oxygen sample may indicate that system parts were not dried and purged prior to sampling. Examples of Refrigerants and Similar Solvents include, but are not limited to the following compounds: HCFC: HCFC-225 (all isomers), HCFC-141b, HFE: HFE-7100, CFC: Freons: R-11, R-12, R-13, R-22, R-113, R-134a.
- 4. Includes chlorinated, brominated and iodinated solvents, such as trichloroethane, dichloromethane, trichloroethylene, carbon tetrachloride, perfluoro-n-butyl iodine, etc. The presence of these solvents in an oxygen sample may indicate that system parts were not dried and purged prior to sampling.
- 5. These include non-halogenated solvents, such as alcohols and industrial gases, such as sulfur hexafluoride. The presence of these solvents in an oxygen sample may indicate that system parts were not dried and purged prior to sampling.

- 6. Nitrogen and argon shall not be considered as contaminants.
- 7. As a result of various International Protocols, such as Montreal and Kyoto, a number of products that were formerly used as refrigerants and / or oxygen system cleaning solvents have been withdrawn; and possibly replaced by different products, solvents, or aqueous-based cleaning products. This shall be taken into consideration when testing for the presence of refrigerants, solvents and other contaminants.
- 8. Other contaminants, each discernible from background noise on infrared spectrophotometer other than those listed in Table 1, shall be identified and reported to the relevant Quality Assurance Authority. Examples of Other Compounds include, but are not limited to Carbon Monoxide (CO).

## ATTACHMENT 1 TO ANNEX A – MANDATORY TECHNICAL CRITERIA

## MANDATORY TECHNICAL EVALUATION CRITERIA FOR Fourier Transform Infrared (FTIR) Spectrometer based Aviator's Breathing Oxygen Test Systems

## 1. General Instructions

The Bid must meet the mandatory technical criteria specified below. Bidders must provide the necessary documentation to support compliance with the requirements, including technical data sheets, specifications, brochures and/or other relevant technical documentation describing the equipment offered and demonstrating compliancy. Each mandatory technical criterion should be addressed separately and in the order presented below.

## 2. Mandatory Technical Criteria

Where *Provide Proposal Reference or Description* is indicated for the Bidder's response, Bidders must either provide a reference to their technical proposal where information can be found that clearly shows how the requirement is met by the proposed solution, or provide a description of how the requirement is met. Where the Bidder's technical documentation does not clearly demonstrate that the equipment offered will meet a specific requirement, the Bidder's proposal must provide additional descriptions of how the requirement will be met by the proposed solution.

Where *Provide Statement of Compliance* is indicated for the Bidder's response, Bidders must commit to complying with the requirement during the performance of the work. Bidders may indicate "Yes" in the Compliant column, which will be a commitment to comply, or they may provide a statement committing to comply.

SOW Mandatory Technical Criteria Paragraph		Supporting Evidence	Compliant		Proposal Reference
Reference		Required	Yes	No	or Description
3.	REQUIREMENTS				
3.1.	Scope of Work				
3.1.5.	Each ABO Test System must include:				
(a)	Fourier Transform Infrared (FTIR) Spectrometer;	Provide Proposal Reference or Description			
(b)	Purge Gas Generator, if required by manufacturer's design;	Provide Proposal Reference or Description			
(c)	All necessary cables, gas lines, and connectors required for a fully functional system;	Provide Proposal Reference or Description			
(d)	Uninterruptible Power Supply (UPS);	Provide Statement of Compliance			
(e)	Operating and Analytical Software;	Provide Proposal Reference or Description			
(f)	Portable Computer (PC); and	Provide Statement of Compliance			
(g)	Ruggedized case(s) for the ABO Test System.	Provide Statement of Compliance			

SOW Paragraph	Mandatory Technical Criteria	Supporting Evidence	Compliant		Proposal Reference
Reference		Required	Yes	No	or Description
3.1.6.	General Requirements:				-
3.1.6.1.	All electrical components of the equipment must be certified or approved for use in accordance with the Canadian Electrical Code, Part 1, before delivery, by a certification organization accredited by the Standards Council of Canada.	Provide Statement of Compliance			
3.1.6.2.	The ABO Test System must be oxygen- safe, including handling samples of pure gaseous oxygen.	Provide Statement of Compliance			
3.1.6.3.	The ABO Test System must be compliant with the guidelines specified in ASTM G-88, Standard Guide for Designing Systems for Oxygen Service.	Provide Statement of Compliance			
3.1.7.	Functional Requirements:				
3.1.7.1.	The ABO Test System must use a single analysis method to accurately quantify the concentrations in parts per million by volume (ppm/v.) for the chemical compounds listed in Appendix 1 to Annex A, including the specific compounds listed in the notes 3, 4, 5 and 8.	Provide Proposal Reference or Description. Identify any additional compounds that the proposed solution will detect and the level of accuracy			
3.1.7.2.	For the grouped chemical classes listed in in Appendix 1 to Annex A, the ABO Test System must provide for each individual compound in the class an accurate quantification result at the concentrations described as follows:				
(a)	Ethane and higher aliphatic hydrocarbons = 0.5 ppm (each).	Provide Proposal Reference or Description			
(b)	Halogenated compounds = 0.1 ppm (each).	Provide Proposal Reference or Description			
(c)	Solvents 0.1 ppm (each).	Provide Proposal Reference or Description			
(d)	Other 0.1 ppm (each).	Provide Proposal Reference or Description			
3.1.8.	Performance and Physical Requirements: the ABO Test Systems must deliver, enable and support the following performance specifications and physical parameters:				
(a)	Must use FTIR spectroscopy technology.	Provide Proposal Reference or Description			

SOW	Mandatory Technical Criteria	Supporting Evidence	Compliant		Proposal Reference
Paragraph Reference		Required	Yes	No	or Description
(b)	Detector: Detector must not require the need for cryogenic liquid cooling. Thermoelectric cooling (Peltier) is acceptable.	Provide Proposal Reference or Description			
(c)	Quantitative analysis relative accuracy: between 80% and 120% when compared against the concentration of a certified reference standard gas mixture at the concentrations listed in 3.1.7.	Provide Proposal Reference or Description			
(d)	The system must be factory calibrated for the quantitative analysis of all the compounds of interest at appropriate calibration ranges to meet the requirements of 3.1.8 (c). The system must not require user re-calibration of the target compounds listed in 3.1.7. A factory re-calibration of this target compound list must be required only in the event of major repairs performed at the factory.	Provide Proposal Reference or Description			
(e)	Quantitative analysis repeatability: ± 5% RSDr between replicates of a certified reference standard.	Provide Proposal Reference or Description			
(f)	Must contain a gas line manifold that will switch the gas line supplies between: a. zero gas, b. sample gas, and c. system check gas mixture.	Provide Proposal Reference or Description			
(i)	For each gas input required by the system design, the Contractor must supply a fit for purpose gas supply regulator and a compatible flexible gas line of a minimum of 15 meters in length.	Provide Statement of Compliance			
(k)	Operational Duty Cycle: must be ready for measurement within one hour of powering up or exiting the stand-by mode.	Provide Statement of Compliance			
(I)	Purge Gas Generator: if a purge gas generator is required by manufacturer's design, then it must include an appropriate compressor as a source of compressed air, fit for the purpose.	Provide Proposal Reference or Description			
3.1.9.	Analysis Software Requirements: The analysis software must deliver, enable and support the following:				

SOW Paragraph	Mandatory Technical Criteria	Supporting Evidence	Compliant		Proposal Reference
Reference		Required	Yes	No	or Description
3.1.9.1.	Allow basic users to operate the instrument and obtain results in a simple pass/fail format. Basic users will be aviation technicians who have been trained and qualified to handle ABO equipment and supplies for use on DND military aircraft. A graphical user interface is required for this purpose that will allow the basic user to start the analysis and then obtain results without the need for any further interaction or data input once the analysis has started.	Provide Proposal Reference or Description, including a description of the required modifications to current software and associated risk assessment			
3.1.9.2.	Advanced users must be able to manipulate all instrumental settings, including the addition and removal of contaminants, change the calibration ranges and pass/fail concentration criteria, to/from the test routines via the graphical user interface. Advanced users are trained scientists with laboratory experience in the use and application of FTIR spectrometers including development of gas analysis protocols, continuous signal acquisition and monitoring, and data processing.	Provide Proposal Reference or Description			
3.1.9.3.	Advanced users must be able to independently perform addition and calibration of new individual compounds without support from the Contractor or manufacturer.	Provide Statement of Compliance			
3.1.9.4.	Generate test result concentration reports for all compounds listed at 3.1.7 at the required significant digits as described in Appendix 1 to this Statement of Work. Rounding-off procedures specified in ASTM E29 - 13 Standard Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications will apply.	Provide Statement of Compliance			

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## ANNEX "B"

## PRICING SCHEDULE

To be inserted at Contract Award from Attachment 1 to Part 3

#### ATTACHMENT 1 TO PART 3

#### PRICING SCHEDULE

Bidders are required to provide a price for each line item indicated. If a price is left blank it will be interpreted as an offered price of \$0.00. If a price of an item is included in another item, this should be indicated by noting "Price of this item is included in item xx. (Insert item number)" If there is not an applicable Price for an item, this should be indicated as "N/A".

#### **Initial Requirement**

## Table 1a: Aviator's Breathing Oxygen (ABO) Test System 1, including installation, commissioning, training and documentation in accordance with Annex A

#	Description	Quantity	Firm Fixed Price per Unit/Set
1	ABO Test System as described in the SOW - For delivery at QETE, Gatineau, Québec	1 Unit	\$
2	Installation and Commissioning of ABO Test System 1 - For delivery at QETE, Gatineau, Québec	1 Unit	\$
3	Documentation as specified in Annex A, Table 4-3 List of Documentation Deliverables	1 Unit	\$
4	Onsite one day of training in English for Advanced User Training, including Handouts, Training Certificates and Summary Report for up to 6 people in Gatineau QC.	1 Unit	\$
5	Onsite training in English for <i>Train the Trainer Training</i> , including Handouts, Training Certificates and Summary Report for up to 6 people in Gatineau QC.	1 Unit	\$
	Evaluated Price	e for Table 1a	Sum of #1 to #5

#### **Optional Requirement**

Bidders are required to provide a price for each line item indicated. If a price is left blank it will be interpreted as an offered price of \$0.00. If a price of an item is included in another item, this should be indicated by noting "Price of this item is included in item xx. (Insert item number)" If there is not an applicable Price for an item, this should be indicated as "N/A".

# Table 2a: Optional Aviator's Breathing Oxygen (ABO) Test Systems 2 to 8 including installation, commissioning, basic user training and documentation in accordance with Annex A

These options may involve ordering additional units one at a time, or multiple units in a single order and may be exercised at any time within one year of contract award.

#	Description	Quantity (For Evaluation Purposes Only)	Firm Price per Unit/Course
1	ABO Test System 2 for delivery to QETE, Gatineau, QC	1 Unit	
2	Installation and Commissioning Services for ABO Test System 2 for delivery at QETE, Gatineau, QC	1 Unit	
3	ABO Test System 3 for delivery to 2 Wing Bagotville, QC	1 Unit	
4	Installation and Commissioning Services for ABO Test System 3 for delivery at 2 Wing Bagotville, QC	1 Unit	
5	ABO Test System 4 for delivery to 3 Wing Bagotville, QC	1 Unit	
6	Installation and Commissioning Services for ABO Test System 4 for delivery at 3 Wing Bagotville, QC	1 Unit	
7	ABO Test System 5 for delivery to 8 Wing Trenton, ON	1 Unit	
8	Installation and Commissioning Services for ABO Test System 5 for delivery at 8 Wing Trenton, ON	1 Unit	
9	ABO Test System 6 for delivery to 4 Wing Cold Lake, AB	1 Unit	
10	Installation and Commissioning Services for ABO Test System 6 for delivery at 4 Wing Cold Lake, AB	1 Unit	
11	ABO Test System 7 for delivery to 4 Wing Cold Lake, AB	1 Unit	

#	Description	Quantity (For Evaluation Purposes Only)	Firm Price per Unit/Course
12	Installation and Commissioning Services for ABO Test System 7 for delivery at 4 Wing Cold Lake, AB	1 Unit	
13	ABO Test System 8 for delivery to 19 Wing Comox, BC	1 Unit	
14	Installation and Commissioning Services for ABO Test System 8 for delivery at 19 Wing Comox, BC	1 Unit	
15	<ul> <li>Two hour onsite Basic User Training for delivery at 3 Wing Bagotville, QC</li> <li>for up to 10 people including Handouts, Training Certificates and Training Summary Report as described in Annex A, Section 3.2.3.4.c</li> </ul>	1 Course	
16	<ul> <li>Two hour onsite Basic User Training for delivery at 8 Wing Trenton, ON</li> <li>9for up to 10 people including Handouts, Training Certificates and Training Summary Report as per Annex A, 3.2.3.4.c</li> </ul>	1 Course	
17	<ul> <li>Two hour onsite Basic User Training for delivery at 4 Wing Cold Lake, AB</li> <li>for up to 10 people including Handouts, Training Certificates and Training Summary Report as per Annex A, 3.2.3.4.c</li> </ul>	1 Course	
18	Two hour onsite Basic User Training for delivery at 19 Wing Comox, BC for up to 10 people including Handouts, Training Certificates and Training Summary Report as per Annex A, 3.2.3.4.c	1 Course	
19	<ul> <li>Two hour remote (e.g. WebEx, Skype, etc.) Basic User Training</li> <li>for up to 60 people including Handouts, Training Certificates and Training Summary Report as per Annex A, 3.2.3.4.c</li> </ul>	1 Course	
	Evaluate	ed Price for Table 2a	Sum of #1 to #19

#### Table 2b: Replacement Parts

### Specified quantities are for financial evaluation purposes only.

#	Description	Quantity	Firm Unit Price	Extended Price (Quantity X Unit Price)
1	FTIR Spectrometer Laser – Option Year 1	10 Units	\$	\$
2	FTIR Spectrometer Infrared Source – Option Year 1	10 Units	\$	\$
3	Detector – Option Year 1	10 Units	\$	\$
	Evaluated Price f		Sum of #1 to #3	

#### Table 2c: Preventative Maintenance Services

#### Specified quantities are for financial evaluation purposes only.

The Preventive Maintenance Service Package will be performed at the Contractor's designated maintenance facility in accordance with Annex A, Section 3.2.4.5. Preventive Maintenance Service Package pricing does not include taxes, duties, shipping, and the cost of replacement parts specified in Table 2b.

#	Description	Quantity	Firm Unit Price	Extended Price (Quantity X Unit Price)
1	Preventive Maintenance Services Package – Option Year 1	1 Unit	\$	\$
2	Preventive Maintenance Services Package – Option Year 2	1 Unit	\$	\$
3	Preventive Maintenance Services Package – Option Year 3	1 Unit	\$	\$
4	Preventive Maintenance Services Package – Option Year 4	1 Unit	\$	\$
5	Preventive Maintenance Services Package – Option Year 5	1 Unit	\$	\$
6	Preventive Maintenance Services Package – Option Year 6	1 Unit	\$	\$
	Evaluated Price f		Sum of #1 to #6	

#### Table 3: Total Aggregated Bid Price

#	Description	Evaluated Price
1	Initial Requirement – ABO Test System 1, including installation, commissioning, training and documentation	As per Evaluated Price from Table 1a
2	Optional Requirement – ABO Test Systems 2 to 6, including , including installation, commissioning, basic user training and documentation	As per Evaluated Price from Table 2a
3	Optional Requirement – Replacement Parts	As per Evaluated Price from Table 2b
4	Optional Requirement – Preventative Maintenance Services	As per Evaluated Price from Table 2c
	Total Aggregated Bid Price	Sum of #1 to #4

#### ANNEX "C"

#### **ELECTRONIC PAYMENT INSTRUMENTS**

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

- () Direct Deposit (Domestic and International)
- () Electronic Data Interchange (EDI)
- () Wire Transfer (International Only)

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#### ANNEX "D"

#### SECURITY REQUIREMENTS CHECK LIST

### JUN 0 1 2018

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Ministère ou organisme gouvernemental d'or			uality Engineering Test Establishmo				
3. a) Subcontract Number / Numéro du contrat o			ubcontractor / Nom et adresse du so				
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<ol> <li>Brief Description of Work / Brève description</li> </ol>		T					
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Delivery Address 2: 3 Wing Bagolvide, Delivery Ad	doress 3: 6 Wing Trenton, Delivery Ad	Idress 4: 4 Wing Cold Li	the (1 unit each location)				
5 a) Will the supplier require access to Controll	od Conde?				No	-	Tre
i e fournisseur aura-t-il accès à des march				14	Non		0
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Regulations?	nea manary recorded data abajoe	the the promotories of the		4	NON		10
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sur le contrôle des données techniques?	La huga d'agante escula						_
Indicate the type of access required / Indique				-		-	
<ul> <li>a) Will the supplier and its employees require Le fournisseur ainsi que les employes auro</li> </ul>	access to PROTECTED and/or C	CLASSIFIED informati	TEGES ATOM CLASSIELES?	11	No	1	0
(Specify the level of access using the chart		S OC A USS DIGHS FAC	12023 8/05 CE-338 -23	6	PEDAT	-	10
(Préciser le niveau d'accès en utilisant le ta	ableau qui se frouve à la question	7. c)				-	_
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PROTECTED and/or CLASSIFIED informa Le fournisseur et ses employés (p. ex. nett	tion or assets is permitted	iont ils accès à des 70	ones d'accès restreinles? L'accès		Non	<u> </u>	1 OI
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Telephone No Nº de téléphone 819-939-9149	Facsimile No N° de téléo 819-997-2523	opieur E-mail address donald lurcoffe	Adresse courriel Date
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TBS/SCT 350-103(2004/12)

Security Classification / Classification de sécurité Unclassified

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#### ANNEX "E"

#### DELIVERY LOCATIONS AND DATES

Delivery Location	Requirement	Required Delivery Date
DND, QETE Supply 45 Blvd Sacré Coeur Room C1113, Ramp 7 Gatineau, QC, J8X 1C6 ATTN: To be inserted at Contract Award Tel: To be inserted at Contract Award	Initial Requirement – ABO Test System 1, including installation, commissioning, training and documentation	Delivery date to be inserted at Contract Award
DND, QETE Supply 45 Blvd Sacré Coeur Room C1113, Ramp 7 Gatineau, QC, J8X 1C6 ATTN: To be inserted at Contract Award Tel: To be inserted at Contract Award	Optional Requirement – ABO Test System 2 including installation, commissioning and documentation	Delivery date to be inserted at the time of issuing the Contract amendment to exercise the option to purchase ABO Test System 2
BFC Bagotville CP 5000, Succ. Bureau-chef Alouette, QC, GOV 1A0 3 EMA / OSM / ES / Bldg ATTN: To be inserted at Contract Award Tel: To be inserted at Contract Award	Optional Requirement – ABO Test System 3 including installation, commissioning, basic user training and documentation	Delivery date to be inserted at the time of issuing the Contract amendment to exercise the option to purchase ABO Test System 3 and basic user training
BFC Bagotville CP 5000, Succ. Bureau-chef Alouette, QC, GOV 1A0 3 EMA / OSM / ES / Bldg ATTN: To be inserted at Contract Award Tel: To be inserted at Contract Award	Optional Requirement – ABO Test System 4 including installation and commissioning and documentation	Delivery date to be inserted at the time of issuing the Contract amendment to exercise the option to purchase ABO Test System 4
8 AMS ALSE Section (LOX Shop) 8 Wing CFB Trenton 52 North Star Drive, Room 123 PO Box 1000, Stn Forces Astra, ON, K0K 3W0 ATTN: To be inserted at Contract Award Tel: To be inserted at Contract Award	Optional Requirement – ABO Test System 5 including installation, commissioning, basic user training and documentation	Delivery date to be inserted at the time of issuing the Contract amendment to exercise the option to purchase ABO Test System 5 and basic user training

Delivery Location	Requirement	Required Delivery Date
ALSE Section (LOX Shop) 4 Wing CFB Cold Lake PO Box 6550 Stn Forces Cold Lake, AB, T9M 2C6 ATTN: To be inserted at Contract Award Tel: To be inserted at Contract Award	Optional Requirement – ABO Test System 6 including installation, commissioning, basic user training and documentation	Delivery date to be inserted at the time of issuing the Contract amendment to exercise the option to purchase ABO Test System 6 and basic user training
ALSE Section (LOX Shop) 4 Wing CFB Cold Lake PO Box 6550 Stn Forces Cold Lake, AB, T9M 2C6 ATTN: To be inserted at Contract Award Tel: To be inserted at Contract Award	Optional Requirement – ABO Test System 7 including installation, commissioning and documentation	Delivery date to be inserted at the time of issuing the Contract amendment to exercise the option to purchase ABO Test System 7
19 Wing Comox, Bldg 171 Wing Supply, Lazo, BC V0R 2K0 ATTN: To be inserted at Contract Award Tel: To be inserted at Contract Award	Optional Requirement – ABO Test System 8 including installation, commissioning, basic user training and documentation	Delivery date to be inserted at the time of issuing the Contract amendment to exercise the option to purchase ABO Test System 8

#### ANNEX "F"

#### **OEM CERTIFICATION FORM**

OEM Certification Form		
This confirms that the original equipment manufacturer (OEM) identified below has authorized the Bidder named below to provide and maintain its products under any contract resulting from the bid solicitation identified below:		
Name of OEM:		
Signature of authorized signatory of OEM:		
Print Name of authorized signatory of OEM:		
Print Title of authorized signatory of OEM:		
Address for authorized signatory of OEM:		
Telephone no. for authorized signatory of OEM:		
Fax no. for authorized signatory of OEM:		
Date signed:		
Solicitation Number:	W8486-195218/B Fourier Transform Infrared (FTIR) Spectrometer based Aviator's Breathing Oxygen Test Systems for DND	
Name of Bidder:		

Buyer ID - Id de l'acheteur DLP 9-2-2

#### ANNEX "G"

#### CONTRACT SECURITY PROGRAM APPLICATION FOR REGISTRATION FORM

Find attached the Application For Application (AFR) form.