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**SOLICITATION AMENDMENT  
MODIFICATION DE L'INVITATION**

The referenced document is hereby revised; unless otherwise indicated, all other terms and conditions of the Solicitation remain the same.

Ce document est par la présente révisé; sauf indication contraire, les modalités de l'invitation demeurent les mêmes.

<b>Title - Sujet</b> Environmental Chambers		
<b>Solicitation No. - N° de l'invitation</b> W7701-176259/A	<b>Amendment No. - N° modif.</b> 003	
<b>Client Reference No. - N° de référence du client</b> W7701-176259	<b>Date</b> 2017-01-26	
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$QCW-029-16999		
<b>File No. - N° de dossier</b> QCW-6-39253 (029)	<b>CCC No./N° CCC - FMS No./N° VME</b>	
<b>Solicitation Closes - L'invitation prend fin</b> <b>at - à 02:00 PM</b> <b>on - le 2017-02-06</b>		<b>Time Zone</b> Fuseau horaire Heure Normale du l'Est HNE
<b>F.O.B. - F.A.B.</b> Plant-Usine: <input type="checkbox"/> Destination: <input checked="" type="checkbox"/> Other-Autre: <input type="checkbox"/>		
<b>Address Enquiries to: - Adresser toutes questions à:</b> Laliberté Seyer, Arlow		<b>Buyer Id - Id de l'acheteur</b> qcw029
<b>Telephone No. - N° de téléphone</b> (418) 649-2824 ( )	<b>FAX No. - N° de FAX</b> (418) 648-2209	
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b>		

**Comments - Commentaires**

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**Instructions: See Herein**

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

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N° de réf. du client - Client Ref. No. W7701-176259	File No. - N° du dossier QCW-6-39253	N° CCC / CCC No./ N° VME - FMS

### **Modification 003**

Title: Temperature and humidity environmental chambers

W7701-176259/A

Included in the present amendment:

#### **Addendum 3**

The original closing date (~~2017/01/30 14:00 Eastern Daylight Time (EDT)~~) of the Request for proposal is changed to 2017/02/06 14:00 Eastern Daylight Time (EDT).

Sections « 7.1.4.1 » of part “7. Deliverables” in the “Annex A – Requirement” is deleted and replaced by the following text:

7.1.4.1 Cascade mode cooling with 2 compressors having a maximum power of 1.5 h.p each.  
The cooling must be “Air cooled”.

Sections « 7.2.4.1 » of part “7. Deliverables” in the “Annex A – Requirement” is deleted and replaced by the following text:

7.2.4.1 Cascade mode cooling with 2 compressors having a maximum power of 2.0 h.p each.  
The cooling must be “Air cooled”.

Section « 7.3 Installation and commissioning » of part “7. Deliverables” in the “Annex A – Requirement” is deleted and replaced by the following text:

#### **7.3 Installation and commissioning**

Required quantity: 1

<b>7.3 Installation and commissioning</b>
7.3.1 The contractor shall install and commission the 2 small-size environmental chambers at the Valcartier Research Centre's small arms laboratory.
7.3.2 The contractor shall install and commission the large-size environmental chamber at the Valcartier Research Centre's small caliber laboratory.
7.3.3 The installation and commissioning shall be done no later than 3 weeks following the delivery of the 3 environmental chambers at the Valcartier Research Centre's small arms laboratory.

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7.3.4 The chosen moment for the installation and commissioning of the 3 environmental chambers must be coordinated with a representative of DRDC Valcartier so that these tasks are held at the earliest suitable time for DRDC Valcartier.

Section « 7.2.1.2 » of part “7. Deliverables” in the “Annex A – Requirement” is deleted and replaced by the following text:

7.2.1.2 Regulation speed: from +85°C to -40°C in 80 minutes or less (empty chamber).

End of addendum 3.

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#### **Questions and Answers (1-6)**

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**Question #1:** Regarding the mandatory technical specifications 7.3.1, .7.3.2 and 7.3.3. Please explain what is requested here: “the contractor shall prepare and commission [the chambers] when they are installed at the Valcartier Research Centre's small arms laboratory”? Does it include actual installation of the chambers following the delivery or will Valcartier Research Centre perform the installation?

**Answer #1:** Valcartier Research Centre can receive the environmental chambers at delivery and will ask the delivery personnel to put the chambers inside the ballistic laboratories. The Valcartier Research Centre will not perform any installation of the chambers, it shall be the contractor to install the chambers during the “Installation and commissioning” phase. For more information, refer to requirements 7.3.1, 7.3.2 and 7.3.3, and “Addendum 1” included in this modification.

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**Question #2:** Regarding mandatory technical specifications 7.1.4.8 and 7.2.4.8: A typical defrosting system would warm up the chamber temperature if it needs to defrost while the test is still in progress. A “Dry Air Purge” option would dry up the chamber prior to the start of the test and thus would allow the chamber test cycle to run much longer without the need to defrost. Would you accept this “Dry Air Purge” option over the defrost system, considering that the facility needs to provide house supplied compressed air for this option to work.

**Answer #2:** No, we lack information to evaluate the effectiveness of this dry air purge option.

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**Question #3:** There is no mention if the compressor/condensers should be air cooled or water cooled. Please confirm which is required.

**Answer #3:** Air cooled for the compressor/condensers

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**Question #4:** Regarding mandatory technical specification 7.1.3.2, would you accept a chamber up to 80" depth?

**Answer #4:** No

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**Question #5:** Would you accept those technical specifications:

For the large size chamber:

- 5.1. Electric power voltage: 3 phases YES
- 5.2. 39.4" x 35.5" x 39.4" interior dimensions YES
- 5.3. Regulation speed: from +85°C to -40°C is approximately 77 minutes YES
- 5.4. humidity uniformity +/-5% NO
- 5.5. maximum floor loading 68kg (150 lbs) NO
- 5.6. 2.2hp compressors NO
- 5.7. No true defrost system for continuous long term testing NO
- 5.8. Temperature Stability: +/- 1/2°C (+/-1°F) at sensor after stability YES
- 5.9. Temperature Uniformity: +/- 3°C 3" from walls NO
- 5.10. Relative Humidity Range: 10% to 98% with +/-2% RH at sensor and +/-5% RH uniformity limited by +4°C dew point NO
- 5.11. Cascade mode cooling with 2 compressors having a maximum power of 4 h.p each. NO
- 5.12. Chamber is able to withstand mass of 100 kg on surface of 1000\*1000mm NO
- 5.13. Use of 404A/R23A refrigerant The refrigerant medium shall comply with the federal halocarbon regulations of the Canadian Environmental Protection Act.

For the small size chambers:

- 5.1. Electric power voltage: 3 phases NO
- 5.2. 19.69" W (500mm) x 23.89" D (607 mm) x 29.53H (750 mm) interior dimensions NO
- 5.3. maximum floor loading 68kg (150 lbs) NO
- 5.4. 2.2hp compressors NO
- 5.5. No true defrost system for continuous long term testing NO
- 5.6. Temperature Stability: +/- 1/2°C (+/-1°F) at sensor after stability YES
- 5.7. Temperature Uniformity: +/- 3°C 3" from walls NO
- 5.8. Relative Humidity Range: 10% to 98% with +/-2% RH at sensor and +/-5% RH uniformity limited by +4°C dew point NO
- 5.9. Cascade mode cooling with 2 compressors having a maximum power of 2.5 h.p each. NO
- 5.10. Cascade mode cooling with 2 compressors having a maximum power of 3 h.p each NO
- 5.11. Chamber is able to withstand mass of 100 kg on surface of 600\*800mm NO
- 5.12. Use of 404A/R23A refrigerant The refrigerant medium shall comply with the federal halocarbon regulations of the Canadian Environmental Protection Act.

**Answer #5:** See answers above in red.

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**Question #6:** Can you please provide the MSDS for any chemicals being used in the chambers, including the ballistics gelatin and the plastilina?

**Answer #6:** See the following attached files: « MSDS for #33208 – ROMA PLASTILINA » and « MATERIAL SAFETY DATA SHEET »

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