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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.

Comments - Commentaires

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L'Esplanade Laurier,

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K1A 0S5

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|---|---|
| Title - Sujet Water Treatment System | |
| Solicitation No. - N° de l'invitation W8476-216378/A | Amendment No. - N° modif. 005 |
| Client Reference No. - N° de référence du client W8476-216378 | Date 2022-06-29 |
| GETS Reference No. - N° de référence de SEAG PW-\$\$HL-673-81098 | |
| File No. - N° de dossier hl673.W8476-216378 | CCC No./N° CCC - FMS No./N° VME |
| Solicitation Closes - L'invitation prend fin at - à 02:00 PM Eastern Daylight Saving Time EDT on - le 2022-07-29 Heure Avancée de l'Est HAE | |
| F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input checked="" type="checkbox"/> Other-Autre: <input type="checkbox"/> | |
| Address Enquiries to: - Adresser toutes questions à: Shaun Feagan | Buyer Id - Id de l'acheteur hl673 |
| Telephone No. - N° de téléphone (613) 295-9018 () | FAX No. - N° de FAX () - |
| Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: Specified Herein | |

Instructions: See Herein

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| Signature | Date |

This amendment is raised to answer questions from potential bidders and amend the Request for Proposals.

Q101. Would Canada accept a degradation in performance while operating from a 50 Hz electrical power source? Particularly paragraph A1.4.1.4 production rates, paragraph A1.2.2.8.5 feed pump suction lift, paragraph A1.2.2.8.6 feed pump discharge lift, and paragraph A1.2.2.10.6 distribution pump discharge elevation difference.

A101. Canada accepts there may be a degradation in performance while operating from a 50Hz power source. Limitations on performance degradation while operating on 50Hz power are:

- 20% reduction in production rates as defined in A1.4.1.4;
- 35% reduction in feed pump suction lift as defined in para A1.2.2.8.5;
- 35% reduction in feed pump discharge lift as defined in para A1.2.2.8.6; and
- 35% reduction in distribution pump discharge elevation difference as defined in para 1.2.2.10.6.

Refer to the amendment to Annex A1 below.

Q102. A1.2.1.3.4 - Is it Canada's intent that these two (2) external GFCI NEMA 5-20RA receptacles service all pumps, heated hoses, heated blankets, ASU shelter heater and provide some provision for minimal ASU shelter lighting? If so they may not be adequate in circuit capacity or number of outlets. Or are these two (2) external GFCI NEMA 5-20RA receptacles in addition to all other loads and connections (which have capacity/quantity/connectivity to the EDP at the discretion of the bidder)?

A102. The following is a summary of the electrical distribution concept for the WTU: The WTU will normally be powered by the Generator Set at A1.2.1.5. It will also have the capability to be powered by North American or European power grids (see para A1.2.1.5.4, Amendment 003 Q&A 64, and Amendment 004 Q&A 83). The WTU will power the ASU's heating and lighting provisions using cables which connect from the WTU enclosure to the HQSS shelter power panel (see Amendment 004 Q&A 99 and 100). The feed and distribution pumps will be powered by two external outlets on the WTU, whose only requirement is that they are rated to IP67, as they are external components (see Amendment 004 Q&A 77). In addition to the two (2) electrical connections for the pumps, there must be sufficient electrical connections on the WTU to provide power to all Cold Weather Ancillary Equipment in para A1.2.3.2, separate from other power requirements described above. Lastly, there will be two (2) external NEMA 5-20RA receptacles which may be used for other loads unrelated to the WTS.

Refer to the amendment to Annex A1 below.

Q103. A1.2.3.2 - The length and quantity of the heated feed water, concentrate, and potable water hoses to be included in the ASU are unspecified. Is it Canada's intent that the lengths and quantities be the same as the unheated hoses in the MEU?

A103. Yes, this is Canada's intent.

Refer to the amendment to Annex A1 below.

Q104. A1.2.5.4.8.5: STANAG 4101 referenced at A1.2.5.4.8.3 provides specifications for lunettes which includes a requirement at 5 e that lunettes must be fixed in order to provide NATO interoperability among nations. Please consider deleting A1.2.5.4.8.5 and amending A1.2.5.4.8.4 to state "The Trailer Chassis tow eye must have a setting for being secured in the fixed position, so that it can be towed by Vehicles with a rotating pintle hook IAW STANAG 4101."

A104. The current requirement will remain unchanged.

Q105. Annex E - Mandatory requirement M1 of the above-referenced RFP requires the bidder to prove that it has tested and delivered at least two water purification system that can treat a source water containing 25,000 ppm of Total Dissolved Solids (TDS). For consistency, could Canada consider increasing the requirement to 45,000 ppm as per requirement A1.4.1.2.1.2 of the RFP technical specification?

A105. The current requirement will remain unchanged.

Q106. Annex E - Mandatory requirement M1 of the above-referenced RFP, would Canada add a requirement that the bidder shall include a proof of factory acceptance test and client sign-off, as well as professional lab analysis of feed and permeate water showing the system produces potable water that meets the Canadian Drinking Water Quality guidelines?

A106. The current requirement will remain unchanged.

Q107. Paragraph A1.2.1.4.2 of the above-referenced RFP, would Canada consider adding the following requirement: The WTS plumbing shall be welded IAW the Technical Standards & Safety Authority (TSSA) and also with CSA Standard W47.1?

A107. The current requirement will remain unchanged.

Q108. Paragraph A5.1.4.2.3 of the above-referenced RFP requires the contractor to have an inline system to measure the temperature of the water at the WTS inlet. Does Canada require the temperature to be maintained at a certain temperature?

A108. Yes, as outlined in the Table 1, General Parameter Requirements at Appendix A5.0 to the WTS SOW, the water temperature to be maintained between 18-22°C during the water quality testing.

Q109. Paragraph A5.1.4.2.4 of the above-referenced RFP requires the contractor to have an inline system to monitor the total dissolved solids (TDS) of the feed water. Please clarify if Canada expects to monitor the TDS by measuring conductivity.

A109. The TDS will be monitored by measuring conductivity of the water.

Q110. Paragraph A5.1.4.2.5 of the above-referenced RFP requires the contractor to monitor the flow rate after every unit operation in the WTS. Please clarify that "unit operation" does not include valves.

A110. Canada confirms "Unit Operation" does not include valves.

Q111. Paragraph A5.3.4.2 of the above-referenced RFP mentions: "The quality standards [...] and chlorine reduction must only be met by the double-pass permeate sample."
Please confirm that Canada means "chloride reduction" rather than "chlorine reduction".

A111. Canada confirms the correct meaning 'chloride reduction' as per the reduction requirements in Table 2 of the Appendix 5.0 to WTS SOW.

Refer to the amendment to Annex A1 below.

Q112. Paragraph A1.2.2.4.1.4 of the above-referenced RFP requires the feed water hoses to be of sturdy construction with low friction/abrasion. Please confirm that Canada expects the feed water hoses to be rigid

A112. It is the responsibility of the bidder to ensure that the properties of the feed water hoses are in compliance with all of the requirements of the solicitation.

Q113. Paragraph A1.2.2.5.1.4 of the above-referenced RFP requirement the concentrate water hose to be covered with an abrasion and weather-resistant synthetic cover.
Please confirm Canada expects rigid concentrate water hoses.

A113. It is the responsibility of the bidder to ensure that the properties of the concentrate water hoses are in compliance with all of the requirements of the solicitation.

Q114. Paragraph A1.2.2.6.1.5 of the above-referenced RFP requires the potable water hoses to be of sturdy construction with low friction/abrasion. Please confirm that Canada expects the potable water hoses to be rigid.

A114. It is the responsibility of the bidder to ensure that the properties of the potable water hoses are in compliance with all of the requirements of the solicitation.

Q115. Paragraph A1.2.1.5.2.4 of the above-referenced RFP specifies that the exhaust hose be stored in the MEU when not in use. Given that the WTU and MEU are always deployed together, would Canada accept that other non-permanently attached electrical system items under paragraph A1.2.5 be stored in the MEU when not in use (example the 15 m long power cable, paragraph A1.2.1.5.4.2)?

A115. Canada accepts that non-permanently attached electrical system items under paragraph A1.2.5 can be stored in the MEU when not in use.

Refer to the amendment to Annex A1 below.

Q116. Paragraph A1.2.2.8.3 of the above-referenced RFP specifies that the feed pump must have the same HP size as the distribution pump for commonality. Given that the commonality requirement was removed for the distribution pump, may it also be removed for the feed pump?

A116. The commonality requirement for the feed and distribution pumps was not removed, see paragraph A1.2.2.8.3.

Refer to the amendment to Annex A1 below.

Q117. Paragraph A1.2.2.10.7 of the above-referenced RFP specifies that the distribution pump must be equipped with a NEMA 5 power plug. NEMA 5 is not watertight. The bidder recommends changing paragraph A1.2.2.10.7 to specify a waterproof power plug having an IP69K or equivalent, just like the feed pump requirement in paragraph A1.2.2.8.8.

A117. Refer to Amendment 004, Q77 for updated requirements regarding pump power delivery.

Q118. Paragraph A1.5.2 of the above-referenced RFP specifies climatic categories A1, A2, A3, B1, B2, B3, C0, C1, and C2. Can Canada confirm that the lower boundary for C2 conditions in paragraphs A1.5.2.1, and A1.5.2.2 is measured at -40°C?

A118. The environmental requirements in paragraphs A1.5.2.1, and A1.5.2.2 will be modified such that the lower boundary for C2 conditions is measured at -40°C.

Refer to the amendment to Annex A1 below.

Q119. Paragraphs A1.2.1.3.3 and A1.2.2.1.6 of the above-referenced RFP specify enclosures must contain Fire Extinguishers NSN 4210-21-908-1048 (or equivalent) and mounting brackets, NSN 4210-21-886-3387.

Will these items be provided by Canada as government supplied material?

A119. These items will not be provided by Canada as GFE.

Q120. Per A1.2.1.5.4.1 of Appendix A, the Electrical System must have the capability to connect to a North American external power grid and must have additional capability to connect to a European external power grid. We understand that 480V and 575V grid power is used in North America and that the field gensets of the US Army generate 416 V (e.g. 60 kW Amp genset) and that the standard three phase power supply in Europe has 400V.

Please confirm which additional voltages Canada expects to encounter in the field and during training exercises.

A120. Canada is not considering the use of any high voltage (>250V) external power sources. The electrical system must be able to operate at voltages under this threshold.

Q121. Annex A1 paragraphs 8.2.2 and 8.2.3 refer to "paragraph 0". Should this read paragraph 8.3.6.3?

A121. The correct reference is para **8.3.6**, Official Languages Requirements.

Refer to the amendment to Annex A1 below.

Q122. Section A5.2 of the above-referenced RFP, test number 4 in table 1 ask a concentration of 0.02 ppm of Mercury. However, table 5 reads 0.2 ppm concentration of Mercury. Confirm table 5 should read 0.02 ppm of Mercury.

A122. Canada confirms that Table 5 should read 0.02 ppm of Mercury.

Refer to the amendment to Annex A1 below.

Q123. Annex E - Mandatory requirement M6 of the above-referenced RFP requires the bidder to provide a detailed design of their proposed Water Filtration and Treatment Module (as described in section A1.2.1.4 of the WTS Technical Specification) supported by technical data, specifications or data sheets for each component and sub-component in the flow diagrams. Could you confirm that the supporting documentation to provide is limited to the major elements listed in A1.2.1.4.1.1 or must include all components (major and ancillary ones like valves, sensors, etc.)?

A123. As indicated in Annex E - Mandatory requirement M6 para. 1, a flow diagram of operations which illustrates all components and sub-components needed to purify and treat the challenge water, clean and sanitize the system, and store and distribute the clean water is required. This would include, but is not limited to, valves, elements,

indicators, etc. that would impact the treatment or flow of the system. Supporting technical data, such as specifications or data sheets, are required for each of these components.

Q124. Please confirm that Item #56 of "Table 1 – Acquisition" of Annex F, "Option to acquire Fleet Support Spares after approval from DND - as described in the Annex A A3.38 DID - List of Items to be Supported" should be updated to state: "Option to acquire Fleet Support Spares after approval from DND - as described in the Annex A1 Appendix A3.39 DID - List of Items to be Supported".

A124. A3.39 is the correct reference. Refer to amendment at Annex A1 below.

Q125. In PART 7 – Resulting Contract Clauses for the Acquisition Contract of W8476-216378, Section 7.6.2 Basis of payment – Firm Unit Prices states "In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid firm unit prices per Annex B1 – Basis of Payment – Acquisition Contract."

Question: Will Canada agree to implement a milestone payment plan which will keep the contractor cash neutral.

A125. Canada is not considering changes to the Basis of Payment.

Q126. A1.2.2.9 calls out for a 'Reverse Osmosis Membrane Preservation Kit' which is described in A1.2.2.9.1 and A1.2.2.9.2 in detail. Will CANADA allow the preservation of the membranes to be built into the respective pressure vessels of the system (ie: in-situ) or do the membranes always have to be removed and preserved after the 72 hours standstill period is reached (see A1.2.1.4.5.4)? If built-in preservation is allowed, do you then still need the 'Reverse Osmosis Membrane Preservation Kit' in accordance with A1.2.2.9? If one is using non-ceramic membrane filters in the Pre-Treatment Module (A1.2.1.4.4) these membranes need to be preserved once the 72 hours are reached. Can bidders assume that the answers given for the RO membranes are also valid for the membranes in the Pre-Treatment Module?

A126. Due to considerations for Canada's cold weather environments and maintenance, Canada will not allow for in-situ preservation of membranes. Based on past experiences, membranes must always be removed when prolonged periods (over 72 hours) of inactivity are anticipated. This applies to any membranes that may be used in the Multistage Mechanical Filtration System as well.

Q127. According to A1.2.1.4.4 including sub-chapters, the main function of the Pre-Treatment Module is 'to maximize the efficiency of the Reverse Osmosis Module and to maximize the life of the Reverse Osmosis membranes by minimizing fouling, scaling and Reverse Osmosis membrane degradation'. According to Annex A5.2 Table 1, one of the main concerns in regard to fouling of the RO membranes is the very high humic acid concentrations. To our best knowledge, and according to the most recent scientific

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literature, the removal of humic acid in a very compact mobile system can be either done by coagulation followed by mechanical filtration or by a Micro- (MF) or Ultrafiltration (UF). Since according to A1.2.1.4.4.3.4.4 'In process chemical injection' is not allowed in the system, the dosing of coagulation is excluded. This leads to our assumption that a Microfiltration or Ultrafiltration needs to be incorporated into the system since standard mechanical filters (e.g. disc filters). If not, zyklones will not be able to reduce the humic acid concentration enough to reduce fouling to an acceptable level at these high raw water concentrations for humic acid. Will CANADA incorporate the requirement for a Microfiltration or Ultrafiltration System for the Pre-treatment module into the technical specification?

A127. It is up to bidders to decide what technology or systems are used within the Multistage Mechanical Filtration System to meet the minimum performance requirements outlined in Annex A1 Appendix A5.3.

The Solicitation is hereby amended as follows:

- **At Annex A1 para 8.2.2**

Delete: Where international symbols are not possible, the Contractor must provide bilingual markings in English and Canadian French, as per paragraph 0.

Insert: Where international symbols are not possible, the Contractor must provide bilingual markings in English and Canadian French, as per paragraph 8.3.6.

- **At Annex A1 para 8.2.3**

Delete: The Contractor must provide warning and precautionary data plates in both official languages of Canada (English and Canadian French) in order to protect personnel and equipment, as per paragraph 0.

Insert: The Contractor must provide warning and precautionary data plates in both official languages of Canada (English and Canadian French) in order to protect personnel and equipment, as per paragraph 8.3.6.

- **At Annex A1.2.1.3.4.1**

Delete: Receptacles must be equipped with GFCI breakers on the receptacles or in the electrical distribution panel (EDP), to supply power the feed and distribution (external) pumps.

Insert: Receptacles must be equipped with GFCI breakers on the receptacles or in the electrical distribution panel (EDP).

- **At Annex A1.2.1.3**

Insert:

A1.2.1.3.9 The Enclosure must be equipped with dedicated external electrical connections to provide power to all Cold Weather Ancillary Equipment described in para 1.2.3.2.

- **At Annex A1.2.1.5.4.1**

Insert:

A1.2.1.5.4.1.1 When operating on 50Hz external power, the maximum allowable reduction in production rate as defined in para 1.4.1.4 is 20%.

A1.2.1.5.4.1.2 When operating on 50Hz external power, the maximum allowable reduction in feed pump suction lift as defined in para A1.2.2.8.5 is 35%.

A1.2.1.5.4.1.3 When operating on 50Hz external power, the maximum allowable reduction in in feed pump discharge lift as defined in para A1.2.2.8.6 is 35%

A1.2.1.5.4.1.4 When operating on 50Hz external power, the maximum allowable reduction in in distribution pump discharge elevation difference as defined in para 1.2.2.10.6 is 35%

A1.2.1.5.4.1.5 The life expectancies and service intervals of each component of the WTU must not decrease when operating on 50Hz external power.

- **At Annex A1.2.2.10**

Insert:

A1.2.2.10.9 The distribution pump must have the same HP size as the Feed Pump for commonality refer to A1.2.2.8.

- **At Annex A1.2.3.2**

Insert:

A1.2.3.2.3 All Electrically-Heated Hoses must be the same lengths and sizes as their non-heated counterparts outlined in paras.1.2.2.4 through 1.2.2.6.

- **At Annex A1.2.5.4.5**

Insert:

A1.2.5.4.5.9 Non-permanently attached electrical system items under paragraph A1.2.5 can be stored in the MEU when not in use.

- **At Annex A1.5.2.1**

Delete: The WTS must be stored in all climatic conditions and factors associated with climatic categories A1, A2, A3, B1, B2, B3, C0, C1, and C2 IAW AECTP 230, Edition 1, Leaflets 2311/1 through 2311/3 and STANAG 2895, Edition 1, Annex C.

Insert: The WTS must be stored in all climatic conditions and factors associated with climatic categories A1, A2, A3, B1, B2, B3, C0, C1, and C2 IAW AECTP 230, Edition 1, Leaflets 2311/1 through 2311/3 and STANAG 2895, Edition 1, Annex C with the exception of climatic category C2, where the induced temperature is modified from -46°C to -40°C.

- **At Annex A1.5.2.2**

Delete: The WTS must be towed, be on stand-by, and be operable in all climatic

conditions and factors associated with A1, A2, A3, B1, B2, B3, C0, C1, and C2 climatic categories IAW AECTP 230, Edition 1, Leaflets 2311/1 through 2311/3 and STANAG 2895, Edition 1, Annex C.

Insert: The WTS must be towed, be on stand-by, and be operable in all climatic conditions and factors associated with A1, A2, A3, B1, B2, B3, C0, C1, and C2 climatic categories IAW AECTP 230, Edition 1, Leaflets 2311/1 through 2311/3 and STANAG 2895, Edition 1, Annex C with the exception of climatic category C2, where the induced temperature is modified from -46°C to -40°C.

- **At Annex A1, Appendix A5.3.4.2**

Delete: All permeate parameter values and contaminant concentrations must meet the specified permeate quality standards in Table 2. DBP concentrations must meet GCDWQ standards, pH standards excluded. The quality standards must be met by both the single-pass and double-pass permeate samples, however total TDS reduction, sodium reduction, and chlorine reduction must only be met by the double-pass permeate sample.

Insert: All permeate parameter values and contaminant concentrations must meet the specified permeate quality standards in Table 2. DBP concentrations must meet GCDWQ standards, pH standards excluded. The quality standards must be met by both the single-pass and double-pass permeate samples, however total TDS reduction, sodium reduction, and chloride reduction must only be met by the double-pass permeate sample.

- **At Annex A1, Appendix A5.3.11, Table 5, Row 12, Column 2**

Delete: 0.2

Insert: 0.02

- **At Annex B1, Table 1, Item #56:**

Delete: Option to acquire Fleet Support Spares after approval from DND - as described in the Annex A A3.38 DID - List of Items to be Supported.

Insert: Option to acquire Fleet Support Spares after approval from DND - as described in the Annex A A3.39 DID - List of Items to be Supported.

- **At Annex F, Table 1, Item #56:**

Delete: Option to acquire Fleet Support Spares after approval from DND - as described in the Annex A A3.38 DID - List of Items to be Supported.

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hl673.W8476-216378

Buyer ID - Id de l'acheteur
hl673
CCC No./N° CCC - FMS No./N° VME

Insert: Option to acquire Fleet Support Spares after approval from DND - as described in the Annex A A3.39 DID - List of Items to be Supported.

All other terms and conditions remain unchanged