



**RETURN BIDS TO:**  
**RETOURNER LES SOUMISSIONS À:**  
PWGSC/TPSGC Acquisitions Bid Receiving  
Box/Boîte de Réception des Soumissions  
Bid Receiving Box/Boîte de Récepti  
1st Floor/1<sup>ère</sup> étage, Suite 1212  
100-1045 Main Street  
Moncton  
New Brunswick  
E1C 1H1  
Bid Fax: (506) 851-6759

**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**

**Vendor/Firm Name and Address**  
**Raison sociale et adresse du**  
**fournisseur/de l'entrepreneur**

**Issuing Office - Bureau de distribution**  
Acquisitions NB/PEI (Moncton Office) – Bureau  
d'acquisitions N.-B./Î.-P.-É. (Moncton)  
1045 Main Street / 1045, rue Main  
Moncton  
New Bruns  
E1C 1H1

<b>Title - Sujet</b> Submersible Mixers	
<b>Solicitation No. - N° de l'invitation</b> F4758-190016/B	<b>Amendment No. - N° modif.</b> 001
<b>Client Reference No. - N° de référence du client</b> F4758-190016	<b>Date</b> 2019-11-07
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$MCT-041-5626	
<b>File No. - N° de dossier</b> MCT-9-42029 (041)	<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 2019-11-18</b>	<b>Time Zone</b> <b>Fuseau horaire</b> Atlantic Standard Time AST
<b>F.O.B. - F.A.B.</b> <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input checked="" type="checkbox"/> <b>Other-Autre:</b> <input type="checkbox"/>	
<b>Address Enquiries to: - Adresser toutes questions à:</b> Owens (MCT), Shannon	<b>Buyer Id - Id de l'acheteur</b> mct041
<b>Telephone No. - N° de téléphone</b> (506) 962-5402 ( )	<b>FAX No. - N° de FAX</b> (506) 851-6759
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b>	

**Instructions: See Herein**

**Instructions: Voir aux présentes**

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

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## **Solicitation Amendment No. 001**

### **Title Submersible Mixers**

This solicitation is hereby amended to revise Annex A and Annex C (**Revised November 7, 2019**) and to provide responses to the following questions:

#### **Q1: Is there any UL/CSA certification required?**

A1: Yes, the mixers need the certifications required to be legally installed in Canada.

#### **Q2: How is the agitator arrangement planned (one above the other or one after the other)?**

A2: The mixers will be installed next to each other at the same height level.

#### **Q3: Please confirm that no sacrificial anode is required if the entire unit is in ss316.**

A3: Sacrificial anodes are required even for SS 316 units.

#### **Q4: Will you accept mixers with no variable speed drives?**

A4: No.

#### **Q5: Is there only seawater in the tanks? Can you please confirm there is no other solid in the tank?**

A5: The tank will only contain solid-free seawater.

#### **Q6: *Regarding Annex C, Item 1(c) "Flow capacity of 300 L/s at 300mm head"* – Usually mixers are not rated based on flow capacity (l/s). They are sized on thrust. Would a minimum thrust of 600N be sufficient for this requirement?**

A6: Yes.

#### **Q7: *Regarding Annex C, Item 1(c) "minimum motor power of 4HP (2.9 Kw)"* - Some mixers can achieve 600N thrust with a smaller motor power. Is there any specific reason you are asking for minimum power 4HP motor?**

A7: A 4HP motor power motor will not be operating at maximum capacity to reach the 600N, thus promoting motor life span.

#### **Q8: *Regarding Annex C, Item 1 (e) "jet ring"*- Submersible mixers at this size are usually efficient enough, so some manufacturers do not supply jet ring for this size of mixers. Is there a technical reason you are asking for a jet ring for such small mixer?**

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A8: A jet ring is expected to increase hydraulic efficiency and thereby reduce power consumption.

**Q9: *Regarding Annex C, Item 3 “dv/dt output current filters to protect from surcharges” – Please clarify what is meant by “surcharges”.***

A9: By surcharges, we imply voltage spikes generated by adjustable frequency drives and long motor cables.

**Q10: *Regarding Annex C, Item 1 (e) “powered by 575-V to 600-V, 60 Hz, 3-phase current” - One solution is to use submersible mixers with different input and use suitable transformer in line. Would you accept such solution if the transformer is provided with primary voltage 575-V to 600-V, 60 Hz, 3-phase and secondary voltage according to the mixer input?***

A10: Yes.

If your bid has already been forwarded and you wish to revise same, this revision should be sent either in a sealed envelope and mailed to the above address or by facsimile (506) 851-6759 and reach the undersigned before the appropriate closing date. The solicitation number and the closing date are to be shown on the outside of the sealed envelope or on the facsimile transmission.

All other terms and conditions of the solicitation document remain unchanged remain unchanged.

All enquiries concerning this amendment are to be forwarded to:

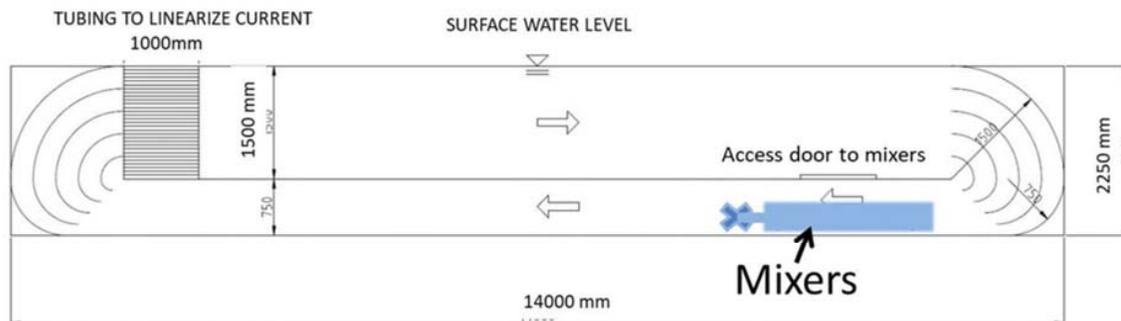
Name: Shannon Owens  
A/Supply Officer  
1045 Main Street  
Moncton, NB E1C 1H1  
Telephone No: (506) 962-5402  
Facsimile No: (506) 851-6759  
Email: [shannon.owens@pwqsc-tps qc.gc.ca](mailto:shannon.owens@pwqsc-tps qc.gc.ca)

## ANNEX "A" – REQUIREMENT (Revised November 7, 2019)

### SCOPE:

Public Services and Procurement Canada, on behalf of Fisheries and Oceans Canada, (343 Université Avenue Moncton, New Brunswick E1C 9B6) has a requirement to procure two (2) Submersible Mixers. The function of this mechanical hardware will be to create water motion in a large flow tank intended for estuarine biological research. The tank size is 2.00 m (width) x 2.25 m (depth) x 14.00 m (length). The tank holds 63 m<sup>3</sup> of water.

The tank will be split into a bottom and a top section along most of its length, and the two sections will communicate at the two ends of the tank (see diagram below). Water will flow in a closed loop in the following manner: it will flow in one direction through the bottom section, drive through radial channels at one end of the tank to change the flow direction by 180 degrees, pass through a turbulence reducing device, flow over the top section, and again turn 180 degrees at the other end of the tank to return to the bottom section. The tank will be used for biological studies in seawater (4 to 18 °C) flows ranging from 1 to 20 cm/s. It was determined, in a hydrological engineering study, that the desired way to create these variable currents was to use two submersible mixers affixed to the floor of the tank in the first third of the bottom section (see diagram below).



Width of tank: 2.00 m  
Water depth: 2.25 m  
Length of tank: 14.00 m  
Water volume: 63 m<sup>3</sup>

### MANDATORY REQUIREMENTS:

1. Two (2) submersible mixers, each meeting the following requirements:
  - a. Powered by 575-V to 600-V, 60 Hz, 3-phase current
  - b. IP-68 dust and water protection rating
  - c. Flow capacity of 300 L/s at 300 mm head and a minimum thrust of 600 N, generated by a minimum motor power of 4HP (2.9 Kw)
  - d. 316 stainless steel propeller, to be used in seawater, with a maximum diameter of 40 cm
  - e. Jet ring with maximum outer diameter of 600 mm
  - f. Set of zinc sacrificial anodes to minimize mixer corrosion in seawater
  - g. Floor mounting kit or plate enabling the fastening of the mixer to the bottom of the tank

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- h. Power cables with minimum length of 12 m
  - i. **Electrical certification in conformity with Canadian standards**
- 2. Two (2) variable speed drives with specifications appropriate to control independently the two mixers' rotation speed. SS316 casing is unnecessary for these control units as we can find other means to protect them from corrosion. However it is essential that the speed can be adjusted in a manner similar to a dimmer light switch, such that the operator can progressively increase speed from null to full capacity. A dual (low/high) speed control is insufficient.
- 3. Two (2) dv/dt output current filters with specifications appropriate to protect each mixer from surcharges. These current filters are required only if power cable length is 15.24 m (50 ft) or longer; current filters are not required if cable length is between 12 m to 15.23 m (12m being the minimum cable length, as per Item 1 ( h ).
- 4. Required electrical cables and connectors to connect the two mixers, variable speed drives and output filters.

DELIVERY REQUIREMENTS:

Two (2) submersible mixers must be delivered to:

Fisheries and Oceans Canada  
343 Université Avenue  
Moncton, New Brunswick E1C 9B6

Submersible mixers must be delivered by **March 31, 2020**.

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**ANNEX "C" - TECHNICAL EVALUATION CRITERIA (Revised November 7, 2019)**

**MANDATORY REQUIREMENTS:**

Bids MUST meet the mandatory requirements specified below. To demonstrate that all requirements of the technical specifications are respected, bidders MUST respond with complete specifications and/or descriptive literature of the equipment being offered.

**The complete specifications and/or descriptive literature should be submitted with the proposal** but may be submitted afterwards. If the complete specifications and/or descriptive literature are not submitted with the proposal, the Contracting Authority will so inform the Bidder and provide the Bidder with a time frame within which to meet this requirement. Failure to comply with the request of the Contracting Authority and meet the requirement within that time period will render the bid non-responsive.

Any proposal which fails to meet all mandatory specifications and requirements will be deemed nonresponsive. Each requirement should be addressed separately.

Any changes to the requirement and/or questions will be answered with an amendment to the solicitation and posted on the Government Electronic Tendering System (GETS) at [www.buyandsell.gc.ca](http://www.buyandsell.gc.ca).

**Technical Specifications for: Submersible Mixers**

Technical Specifications		Supplier's Cross Reference to Technical Offer (indicate Page #)	Supplier Comments
Item	Description		
1	Two (2) submersible mixers, each meeting the following requirements		
a	Powered by 575-V (minimum) to 600-V (maximum), 60 Hz, 3-phase current		
b	IP-68 dust and water protection rating		
c	<del>Flow capacity of 300 L/s at 300 mm head and a</del> A minimum thrust of 600 N, generated by a minimum motor		
d	316 stainless steel propeller, to be used in seawater with a maximum diameter of 40 cm		
e	Jet ring with maximum outer diameter of 600 mm		
f	Set of zinc sacrificial anodes to minimize mixer corrosion in seawater		
g	Floor mounting kit or plate enabling the fastening of the mixer to the bottom of the tank		
h	Power cables with minimum length of 12 m		
i	<del>Electrical certification in conformity with Canadian standards</del>		
2	Two (2) variable speed drives with specifications appropriate to control independently the two mixers' rotation speed. SS316 casing is unnecessary for these control units. However it is		

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Technical Specifications		Supplier's Cross Reference to Technical Offer (indicate Page #)	Supplier Comments
Item	Description		
	essential that the speed can be adjusted in a manner similar to a dimmer light switch, such that the operator can progressively increase speed from null to full capacity. ( <i>A dual low/high speed control is insufficient.</i> )		
3	Two (2) dv/dt output current filters with specifications appropriate to protect each mixer from surcharges. These current filters are required only if power cable length is 15.24 m (50 ft) or longer; current filters are not required if cable length is between 12 m* to 15.23 m <i>*12m being the minimum cable length, as per Item 1 (h).</i>		
4	Required electrical cables and connectors to connect the two mixers, variable speed drives and output filters.		

DELIVERY REQUIREMENTS:

Two submersible mixers must be delivered to:

Fisheries and Oceans Canada  
343 Université Avenue  
Moncton, New Brunswick  
E1C 9B6

Submersible mixers must be delivered no later than **March 31, 2020**.

I certify that \_\_\_\_\_ can meet the above mandatory delivery requirements.  
(Company Name)

\_\_\_\_\_  
(Print Name)

\_\_\_\_\_  
(Signature)

\_\_\_\_\_  
(Date)