



**RETURN BIDS TO:**

**RETOURNER LES SOUMISSIONS À:**

Travaux publics et Services gouvernementaux  
Canada  
Place Bonaventure, portail Sud-Oue  
800, rue de La Gauchetière Ouest  
7e étage, suite 7300  
Montréal  
Québec  
H5A 1L6  
FAX pour soumissions: (514) 496-3822

**REQUEST FOR PROPOSAL  
DEMANDE DE PROPOSITION**

**Proposal To: Public Works and Government  
Services 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, services, and construction listed herein and on any attached sheets at the price(s) set out therefor.

**Proposition aux: Travaux Publics et Services  
Gouvernementaux Canada**

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, services et construction énumérés ici sur toute feuille ci-annexée, au(x) prix indiqué(s).

**Comments - Commentaires**

<b>Title - Sujet</b> Tour d'eau	
<b>Solicitation No. - N° de l'invitation</b> EF236-191276/A	<b>Date</b> 2019-01-11
<b>Client Reference No. - N° de référence du client</b> EF236-191276	
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$MTA-280-15181	
<b>File No. - N° de dossier</b> MTA-8-41200 (280)	<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 2019-01-29</b>	<b>Time Zone</b> <b>Fuseau horaire</b> Heure Normale du l'Est HNE
<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> Blanchet, Annie	<b>Buyer Id - Id de l'acheteur</b> mta280
<b>Telephone No. - N° de téléphone</b> (514) 605-3664 ( )	<b>FAX No. - N° de FAX</b> (514) 496-3822
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b> MINISTERE DES TRAVAUX PUBLICS ET SERVICES GOUVERNEMENTAUX CANADA 800 RUE DE LA GAUCHÈTIÈRE OUEST BUREAU 7300 MONTREAL Québec H5A 1L6 Canada	

Instructions: See Herein

Instructions: Voir aux présentes

**Vendor/Firm Name and Address**

Raison sociale et adresse du  
fournisseur/de l'entrepreneur

**Issuing Office - Bureau de distribution**

Travaux publics et Services gouvernementaux Canada  
Place Bonaventure, portail Sud-Oue  
800, rue de La Gauchetière Ouest  
7e étage, suite 7300  
Montréal  
Québec  
H5A 1L6

<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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## **PART 1 - GENERAL INFORMATION**

### **1.1 Requirement**

The requirement is detailed under Article 6.2 of the resulting contract clauses.

### **1.2 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.

### **1.3 Trade Agreements**

"The requirement is not subject to Trade Agreement .

## **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](https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) (https://buyandsell.gc.ca/policy-and-guidelines/standard-acquisition-clauses-and-conditions-manual) 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 [2003](#) (2018-05-22) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

Subsection 5.4 of [2003](#), Standard Instructions - Goods or Services - Competitive Requirements, is amended as follows:

Delete: 60 days

Insert: 90 days

### **2.2 Submission of Bids**

Bids must be submitted only to Public Works and Government Services Canada (PWGSC) Bid Receiving Unit by the date, time and place indicated in the bid solicitation.

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### **2.3 Enquiries - Bid Solicitation**

All enquiries must be submitted in writing to the Contracting Authority no later than ten (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 \_\_\_\_\_.

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**

Due to the nature of the bid solicitation, bids transmitted by epost Connect service will not be accepted.

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

- Section I: Technical Bid (2 hard copies)
- Section II: Financial Bid (1 hard copie)
- Section III: Certifications (1 hard copie)

If there is a discrepancy between the wording of the soft copy on electronic media and the hard copy, the wording of the hard copy will have priority over the wording of the soft copy.

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

Canada requests that bidders follow the format instructions described below in the preparation of hard copy of their bid:

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

In April 2006, Canada issued a policy directing federal departments and agencies to take the necessary steps to incorporate environmental considerations into the procurement process [Policy on Green Procurement](https://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=32573) (<https://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=32573>). To assist Canada in reaching its objectives, bidders should:

- 1) use 8.5 x 11 inch (216 mm x 279 mm) paper containing fibre certified as originating from a sustainably-managed forest and containing minimum 30% recycled content; and
- 2) use an environmentally-preferable format including black and white printing instead of colour printing, printing double sided/duplex, using staples or clips instead of cerlox, duotangs or binders.

#### **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 in accordance with the Basis of Payment.

##### **3.1.1 Exchange Rate Fluctuation**

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**

- a) The bidder must include with its proposal the following:
  - technical data on brand and model of each cooling tower indicating accessories and options included.
  - dimensional drawing of the equipment with indication of the total mass of the assembly.
  - product data and the shop drawings of the products offered as described in Annex C - Mandatory technical evaluation criteria.
- b) Although the bidder must propose products that meet all of the following specifications and technical components described in Annex A at the closure date, bids will be evaluated on the technical requirements of Annex C - Mandatory technical evaluation criteria.

##### **4.1.1.1 Mandatory Technical Criteria**

See Annex C "Mandatory technical evaluation criteria"

**IMPORTANT: The bidder must clearly demonstrate how the proposed equipment complies to each mandatory technical criteria at Annex C. Simply stating that the criteria are met is not sufficient.** Where it is necessary to refer to other documentation that is included in the proposal, bidders should include the precise location of the reference material including the title of the document, and the page and paragraph numbers. It is the bidder's responsibility to provide enough details to permit a complete evaluation.

Any proposal that does not clearly demonstrate compliance with each of the technical requirements listed in the "Mandatory Technical Criteria" (Annex C) at the closing date will be considered non-responsive.

#### **4.1.2 Financial Evaluation**

Total financial evaluation: Sum of items 1 to 3 mentioned in Annex "B".

##### **4.1.2.1 SACC Manual clause**

A0222T (2014-06-26), Evaluation of Price - Canadian / Foreign Bidders

### **4.2 Basis of Selection**

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

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## **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 specified otherwise, 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.

#### **5.1.1 Integrity Provisions - Declaration of Convicted Offences**

In accordance with the Integrity Provisions of the Standard Instructions, all bidders must provide with their bid, **if applicable**, the declaration form available on the [Forms for the Integrity Regime](http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html) website (<http://www.tpsgc-pwgsc.gc.ca/ci-if/declaration-eng.html>), to be given further consideration in the procurement process.

### **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 section titled Information to be provided when bidding, contracting or entering into a real procurement agreement of the [Ineligibility and Suspension Policy](http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html) (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>), the Bidder must provide the required documentation, as applicable, to be given further consideration in the procurement process.

#### **5.2.2 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](https://www.canada.ca/en/employment-social-development/programs/employment-equity/federal-contractor-program.html#)" list available at the bottom of the page of the [Employment and Social Development Canada \(ESDC\) - Labour's](https://www.canada.ca/en/employment-social-development/programs/employment-equity/federal-contractor-program.html#) website (<https://www.canada.ca/en/employment-social-development/programs/employment-equity/federal-contractor-program.html#>).

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](https://www.canada.ca/en/employment-social-development/programs/employment-equity/federal-contractor-program.html#)" list at the time of contract award.

## **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** There is no security requirement applicable to the Contract.

### **6.2 Requirement**

The Contractor must provide the items detailed under the "Requirement" at Annex "A".

### **6.3 Standard Clauses and Conditions**

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

#### **6.3.1 General Conditions**

2010A (2018-06-21), General Conditions - Goods (Medium Complexity), apply to and form part of the Contract.

##### **6.3.1.1 Warranty Period**

***For point #1 and #3 of the Annex A, part 2.12 Warranty :***

Section 09 of general conditions 2010A is amended by replacing the period of 12 months by 60 months.

All other provisions of the warranty section remain in effect.

### **6.4 Term of Contract**

#### **6.4.1 Period of the Contract**

The period of the Contract is from date of award to the end of the warranty period.

#### **6.4.2 Delivery Date**

All the deliverables must be available no later than 7 weeks after the award of the contract.

Delivery must be within 10 business days of PWGSC's call which will occur within the following period : between March 20 and September 31, 2019.

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## 6.5 Authorities

### 6.5.1 Contracting Authority

The Contracting Authority for the Contract is:

Name: Annie Blanchet  
Title: Supply specialist  
Public Works and Government Services Canada  
Acquisitions Branch  
Telephone: 514-605-3664  
Facsimile: 514-922-3822  
E-mail address: annie.blanchet@tpsgc.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.

### 6.5.2 Technical Authority

The Technical Authority for the Contract is:

Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Organization: \_\_\_\_\_  
Address: \_\_\_\_\_  
Telephone: \_\_\_\_ - \_\_\_\_ - \_\_\_\_  
Facsimile: \_\_\_\_ - \_\_\_\_ - \_\_\_\_  
E-mail: \_\_\_\_\_.

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.

### 6.5.3 Contractor's Representative

Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Organization: \_\_\_\_\_  
Address: \_\_\_\_\_  
Telephone: \_\_\_\_ \_\_\_\_ \_\_\_\_\_  
Facsimile: \_\_\_\_ \_\_\_\_ \_\_\_\_\_  
E-mail address: \_\_\_\_\_

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## **6.6 Payment**

### **6.6.1 Basis of Payment**

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid a firm lot price(s), as specified in Annex "B" for a cost of \$ \_\_\_\_\_.  
Customs duties are included and Applicable Taxes are extra.

The contract will be awarded in Canadian currency. The rate given by the Bank of Canada in effect on the bid solicitation closing date will be applied as a conversion factor.

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.

### **6.6.2 Limitation of Price**

*SACC Manual* clause [C6000C](#) (2017-08-17) Limitation of Price

### **6.6.3 Single Payment**

*SACC Manual* clause [H1000C](#) (2008-05-12) Single payment

### **6.6.4 SACC Manual Clauses**

*SACC Manual* clause [A2000C](#) (2006-06-16) Foreign Nationals (Canadian Contractor)

*SACC Manual* clause [A2001C](#) (2006-06-16) Foreign Nationals (Foreign Contractor)

*SACC Manual* clause [C2000C](#) (2007-11-30) Taxes - Foreign-based Contractor

## **6.7 Invoicing Instructions**

1. 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.
2. Invoices must be distributed as follows:
  - a. The original and one (1) copy must be forwarded to the address shown on page 1 of the Contract for certification and payment.

## 6.8 Certifications and Additional Information

### 6.8.1 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.

### 6.9 Applicable Laws

The Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in \_\_\_\_\_ (*insert the name of the province or territory as specified by the Bidder in its bid, if applicable*).

### 6.10 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 general conditions 2010A (2018-06-21), General Conditions - Goods (Medium Complexity), apply to and form part of the Contract.
- (c) Annex A, Requirement;
- (d) Annex B, Basis of payment
- (e) the Contractor's bid dated \_\_\_\_\_ (*insert date of bid*) (*If the bid was clarified or amended, insert at the time of contract award: “, as clarified on \_\_\_\_\_” or “, as amended on \_\_\_\_\_” and insert date(s) of clarification(s) or amendment(s)*)

### 6.11 SACC Manual Clauses

SACC Manual clause A9068C (2010-01-11) Government Site Regulations

SACC Manual clause B1501C (2018-06-21) Electrical Equipment

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

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## ANNEX "A"- REQUIREMENT

- Part 1 : Objective
- Part 2 : Mandatory Technical Requirements
- Part 3 : Deliverables
- Part 4 : Delivery
- Part 5 : Reference standards

### **Part 1 : OBJECTIVE**

The requirement is to provide two closed-circuit glycol water cooling towers, single-cell, factory-assembled, blast-air regulator, and reverse air currant, with vertical air outlet and silent centrifugal fan..

### **Part 2 : MANDATORY TECHNICAL REQUIREMENTS**

#### **Closed circuit cooling towers**

#### **2.1 MATERIALS**

- .1 Provide two closed-circuit glycol water cooling towers, single-cell, factory-assembled, blast-air regulator, and reverse air currant, with vertical air outlet and silent centrifugal fan.
- .2 Water-immersed basin panels up to overflow level are 304-gauge stainless steel, including antivortex and Type 304 stainless-steel strainers.
- .3 Panels in contact with water above overflow level are made of hot-dipped galvanized steel in accordance with ASTM A153/A153M, with cuttings coated with a coating rich in pure zinc (95%) during manufacture.

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## **2.2 PERFORMANCE**

.1 Performance: Certified as per CTI-STD-201 Standard or by performance tests onsite complying with CTI-ATC-105, realized by an independent qualified agency. Costs for these tests are at the expense of the supplier.

.2 Power: Allowing cooling 600 US gal/min of 40% ethylene glycol from 95°F to 85°F (177 T or 2,660.84 MBH) at a wet temperature condition of 75°F with a loss of fluid pressure in the coil of not more than 5 psi.

.3 Air flow of 98,000 cfm.

.4 Two 20-HP motors at 600/3/60 with an adjustable frequency drive.

.5 No circulation pump is required.

.6 Sound pressure level measured at 5 ft on the motor side: Not more than 80 dBA.

.7 Water distribution by pump and interior basin (Existing).

## **2.3 SIZE AND WEIGHT**

.1 Maximun sizes: 236 in. x 139 in. x 164 in. height.

.2 Operating Mass: Not more than 31,700 lbs.

## 2.4 WATER DISTRIBUTION SYSTEM

.1 The distribution system must be made of non-corrosive material (either stainless steel or PVC) and be of the "gravity" or "pressurized" type.

.2 The pressurized distribution system will consist of a main pipe and distribution branches made of PVC, Schedule 40, to resist corrosion. The junction between the external piping and the water distribution system must be made of galvanized steel. The pipe will be provided with a groove for mechanical coupling and beveled ready for welding. The dispensing system will be removable and the ends of the piping will be provided with removable plugs to facilitate cleaning. Water will be dispensed over the liner with nozzles having a 3/8 in. x 1 in. wide orifice with an inner shoulder to prevent clogging. The sprinklers will be threaded into the distribution branches to ensure proper positioning. The water distribution system will have to be fed to each cell with A SINGLE water supply line.

.3 The gravity distribution system will consist of two stainless-steel hot water basins (one above each heat transfer section) that will be factory sealed and installed, with stainless-steel covers. The hot water basin covers will be manufactured to support an empty load of 244 kg/m<sup>3</sup> (50 lb/ft<sup>2</sup>) and a concentrated load of 90 kg (200 lbs.). Both hot water basins will need to be fed with A SINGLE water supply line for each cell. The water feeding the basins must be balanced as well. A guardrail will be installed around the top of the tower with an access ladder and its safety screen to perform maintenance tasks at the hot water basins. All capable of withstanding a 90-kg (200 lbs.) concentrated live load in any direction and built to OSHA recommendations.

## 2.5 HEAT TRANSFERT COIL

.1 The heat transfer coil is equipped with tubes with Ellipti-*fin* type blades for better performance in dry and wet mode, of steel construction with steel frame whose assembly is fully hot-dip galvanized. The coil tubes are sloped to promote drainage and to verify at an air pressure of 400 psig. The coil must comply with ASME/ANSI B31.5 Standard.

## 2.6 FANS

.1 Fans must be of centrifugal type with blades inclined forward, made of hot-dip galvanized construction. Fans must be factory-assembled and statically and dynamically balanced for vibration-free operation.

## 2.7 FAN HOUSING

.1 Fans, including electric motors, straps, bearings, and drives, must be completed enclosed in a protective caisson covering the drive system and ensure noise reduction.

## **2.8 DRIFT ELIMINATOR**

.1 Drift eliminators must be constructed entirely of Polyvinyl Chloride (PVC) in easily handled sections. Design must incorporate three (3) changes in air direction and the water carryover to a maximum of 0.01% of the recirculating water rate. The design air velocity through the fill body and the drift eliminators must not exceed 3 m/s.

## **2.9 WATER BASIN STRAINER**

.1 The water basin strainer must be made of Type 304 stainless steel.

## **2.10 MOTORS AND DRIVE**

.1 Fan motors are of TEFC construction suitable for moist air service. Motors are Premium Efficient, Class F insulated, 1.15 service factor design according to NEMA MG1 Section 31.4.4.2 for adjustable frequency drive.

.2 Fan motors must include strip-type space heater separate leads brought to the motor conduit box.

.3 Fan drive must be V-belt type with QD tapered bushings designed for 150% of the power of the motor nameplate power. Belts material must be neoprene reinforced with polyester cord and specially designed for the application. Belt adjustment must be accomplished from outside the unit.

.4 Fan shaft must be tubular steel, rectified, and polished with forged bearings. The exposed surface must be coated with a rust inhibitor.

.5 Fan shaft bearings must be self-aligning heavy-duty ball bearings with lubrication lines at the grease fittings located on the outside of the unit.

.6 Water towers must be provided with vibration switches, operating at 120 VAC feed to protect the fans and drive from damage in the event of excessive vibration. Vibration switch must be DPDT type.

## **2.11 ACCESS FOR MAINTENANCE**

.1 Fan grilles must be removable for fan motor and drive access at grade.

.2 The circular access door must be located above the basin to allow for easy access to the pan interior.

.3 A vertical aluminum ladder must be provided for access to the water distribution and heat transfer media.

.4 The ladders mentioned in the preceding point must be equipped with guardrails beginning at 7 feet from the ground.

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## **2.12 WARRANTY**

- .1 The entire unit must have a full 5-year warranty against defects in material and workmanship.
- .2 Mechanical equipment of the water tower will be covered by a 1-year labor warranty.
- .3 Fan Motor/Drive System: Warranty period will be 5 years (ventilation motors, fans, fan shafts, bearings, mechanical support, shaft bushings, and belts).
- .4 Heat Exchange Coil: Warranty period must be one year

### **Part 3 : DELIVERABLES**

.1 Operation and Maintenance Data: Provide instructions for the operation and maintenance of water towers.

.1 Include:

- .1 Description of equipment giving manufacturers name, model type and year, and capacity.
- .2 Start-up and commissioning procedures.
- .3 Details of operation, servicing, and maintenance.
- .4 Recommended spare parts list.
- .5 Certified copy of factory test results.

.2 Provide Operation and Maintenance (O&M) Manuals in French.

### **Part 4 :DELIVERY**

Deliver materials to site in original factory packaging, labelled with manufacturer's name and address. Unload materials as instructed by Departmental Representative (Loading dock).

The delivery location is Montreal, Qc. The address will be specified at contract award.

### **Part 5: REFERENCE STANDARDS**

.1 ASTM International (ASTM).

- .1 ASTM A153/A153M-09, Standard Specification for Zinc Coating (Hot-Dip) on Iron and Steel Hardware.
- .2 ASTM C547-12, Standard Specification for Mineral Fiber Pipe Insulation.

.2 Cooling Technology Institute (CTI).

- .1 CTI-ATC-105-00, Acceptance Test Code.
- .2 CTI-STD-201-11, Standard for the Certification of Commercial Water Cooling Tower Thermal Performance.

.3 Underwriters Laboratories of Canada (ULC).

- .1 CAN/ULC-S102.2-10, Method of Test for Surface Burning Characteristics of Flooring, Floor Coverings and Miscellaneous Materials and Assemblies.

.4 Public Services and Procurement Canada.

- .1 MD 15161-2013, Control of Legionella in Mechanical Systems.

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**ANNEX "B" - BASIS OF PAYMENT**

<b>Item</b>	<b>Description</b>	<b>Quantity</b>	<b>Unit price</b>	<b>Total price</b>
<b>1.</b>	<b>Closed circuit cooling towers</b> as per mandatory technical specifications described in Appendix A - Requirement	<b>2</b>	\$ _____	\$ _____
<b>2.</b>	<b>Delivery and unload</b> of the two <b>closed circuit cooling towers</b> as described in Appendix A –Requirement, part 4	<b>lot</b>		\$ _____
<b>3.</b>	<b>Warranty</b> as described in section 2.12 of part 2 in Appendix A -Requirement	<b>lot</b>		\$ _____
	<b>Total</b>			\$ _____

**ANNEX "C" Mandatory technical evaluation criteria**

<b><u>Closed circuit cooling towers</u></b>	
<b>Mandatory criteria</b>	<b>Technical demonstration</b> (should include the precise location where to refer in the documentation included in the proposal or provide enough details to permit a complete evaluation)
<p><b>2.2 PERFORMANCE</b></p> <p>.2 Power: Allowing cooling 600 US gal/min of 40% ethylene glycol from 95°F to 85°F (177 T or 2,660.84 MBH) at a wet temperature condition of 75°F with a loss of fluid pressure in the coil of not more than 5 psi.</p>	
<p><b>2.2 PERFORMANCE</b></p> <p>.4 Two 20-HP motors at 600/3/60 with an adjustable frequency drive.</p>	
<p><b>2.2 PERFORMANCE</b></p> <p>.6 Sound pressure level measured at 5 ft on the motor side: Not more than 80 dBA.</p>	
<p><b>2.3 SIZE AND WEIGHT</b></p> <p>.1 Maximun sizes: 236 in. x 139 in. x 164 in. height.</p>	
<p><b>2.3 SIZE AND WEIGHT</b></p> <p>.2 Operating Mass: Not more than 31,700 lbs.</p>	

## Technical evaluation

- a) The bidder must include with its proposal the product data and the shop drawings of the products offered as described below:

### .1 Product Data.

.1 Submit data sheets, manufacturer's instructions, and documentation for cooling towers. Data sheets must indicate characteristics of products, performance criteria, dimensions, limits, and finish.

### .2 Shop Drawings.

#### .1 Indicate on drawings.

.1 Connections, piping, and fittings, valves, strainers, control assemblies and ancillaries, identifying factory, and field assembled.

.2 Wiring (as assembled and schematically).

.3 Dimensions, construction details, recommended installation and supports, mounting bolt hole sizes and locations, and point loads.

.4 Vibration and seismic control measures.

.5 Tower performance, fan curves, and brand of motor manufacturer.

.6 Manufacturer's recommended clearances.