



RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:
Bid Receiving - PWGSC / Réception des
soumissions - TPSGC
11 Laurier St. / 11, rue Laurier
Place du Portage, Phase III
Core 0B2 / Noyau 0B2
Gatineau, Québec K1A 0S5
Bid Fax: (819) 997-9776

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

Title - Sujet Shell & Tube Heat exchanger	
Solicitation No. - N° de l'invitation 23375-200280/A	Date 2019-11-06
Client Reference No. - N° de référence du client 23375-200280	
GETS Reference No. - N° de référence de SEAG PW-\$\$HL-670-77969	
File No. - N° de dossier hl670.23375-200280	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2019-12-17	Time Zone Fuseau horaire Eastern Standard Time EST
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: Weatherbee, Lynn	Buyer Id - Id de l'acheteur hl670
Telephone No. - N° de téléphone (873) 353-1813 ()	FAX No. - N° de FAX (613) 943-7620
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: DEPARTMENT OF NATURAL RESOURCES 1 HAANEL DR. OTTAWA Ontario K1A1M1 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
Fuel & Construction Products Division
L'Esplanade Laurier,
140 O'Connor Street,
East Tower, 4th floor,
Ottawa
Ontario
K1A 0S5

Delivery Required - Livraison exigée See Herein	Delivery Offered - Livraison proposée
Vendor/Firm Name and Address Raison sociale et adresse du fournisseur/de l'entrepreneur	
Telephone No. - N° de téléphone Facsimile No. - N° de télécopieur	
Name and title of person authorized to sign on behalf of Vendor/Firm (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)	
Signature	Date



Item Article	Description	Dest. Code Dest.	Inv. Code Fact.	Qty Qté	U. of I. U. de D.	Unit Price/Prix unitaire FOB/FAM	Destination	Plant/Usine	Delivery Req. Livraison Req.	Del. Offered Liv. offerte
1	Shell & Tube Heat exchanger In accordance with the Requirement at Annex "A".	23375	I - 1	1	Each	\$	XXXXXXXXXXXX	XXXXXXXXXXXX	See Herein	

TABLE OF CONTENTS

PART 1 - GENERAL INFORMATION	2
1.1 REQUIREMENT – BID	2
1.2 DEBRIEFINGS	2
1.3 TRADE AGREEMENTS	2
1.4 EPOST CONNECT.....	2
PART 2 - BIDDER INSTRUCTIONS	3
2.1 STANDARD INSTRUCTIONS, CLAUSES AND CONDITIONS.....	3
2.2 SUBMISSION OF BIDS.....	3
2.3 ENQUIRIES - BID SOLICITATION.....	4
2.4 APPLICABLE LAWS.....	4
2.5 BEST DELIVERY DATE - BID	4
PART 3 - BID PREPARATION INSTRUCTIONS.....	5
3.1 BID PREPARATION INSTRUCTIONS	5
PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION	7
4.1 EVALUATION PROCEDURES.....	7
4.2 BASIS OF SELECTION.....	7
PART 5 – CERTIFICATIONS AND ADDITIONAL INFORMATION	8
5.1 CERTIFICATION REQUIRED WITH THE BID	8
5.2 CERTIFICATIONS PRECEDENT TO CONTRACT AWARD AND ADDITIONAL INFORMATION	8
PART 6 - RESULTING CONTRACT CLAUSES	10
6.1 SECURITY REQUIREMENTS	10
6.2 REQUIREMENT - CONTRACT.....	10
6.3 STANDARD CLAUSES AND CONDITIONS.....	10
6.4 TERM OF CONTRACT	10
6.5 AUTHORITIES	10
6.6 PAYMENT	11
6.7 INVOICING INSTRUCTIONS	13
6.8 CERTIFICATIONS AND ADDITIONAL INFORMATION.....	13
6.9 APPLICABLE LAWS.....	13
6.10 PRIORITY OF DOCUMENTS	13
6.11 SACC MANUAL CLAUSES	13
6.12 SHIPPING INSTRUCTIONS - DELIVERY AT DESTINATION	13
ANNEX A - REQUIREMENT	14
ANNEX B - MANDATORY TECHNICAL COMPLIANCE MATRIX FOR EVALUATION PURPOSES	18
ANNEX C – ELECTRONIC PAYMENT INSTRUMENTS	21

PART 1 - GENERAL INFORMATION

1.1 Requirement – Bid

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 subject to the provisions of the World Trade Organization Agreement on Government Procurement (WTO-AGP), the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), the North American Free Trade Agreement (NAFTA), the Canadian-European Union Comprehensive Economic and Trade Agreement (CETA) and the Canadian Free Trade Agreement (CFTA).

1.4 Epost Connect

This bid solicitation allows bidders to use the epost Connect service provided by Canada Post Corporation to transmit their bid electronically. Bidders must refer to Part 2 entitled Bidder Instructions, and Part 3 entitled Bid Preparation Instructions, of the bid solicitation, for further information.

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>) 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](#) (2019-03-04) 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

2.1.1 SACC Manual Clauses

The following terms and conditions are incorporated herein

SACC Reference	Section	Date
B1000T	Condition of Material - Bid	2014-06-26

2.1.2 Subject To Prior Sale

Submission of firm delivery is mandatory, therefore if a proposal is marked "Subject to Prior Sale" or if the bid does not conform to the bid validity period expressed herein, the bid will be considered non responsive.

2.1.3 Units of Issue

Suppliers are to pay particular attention to the units of issue specified. If quoting other than specified, please indicate the unit of issue you are quoting on.

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.

Note: For bidders choosing to submit using epost Connect for bids closing at the Bid Receiving Unit in the National Capital Region (NCR) the email address is:

tpsgc.dgareceptiondessoumissions-abbidreceiving.pwgsc@tpsgc-pwgsc.gc.ca

Note: Bids will not be accepted if emailed directly to this email address. This email address is to be used to open an epost Connect conversation, as detailed in Standard Instructions [2003](#), or to send bids through an epost Connect message if the bidder is using its own licensing agreement for epost Connect.

2.2.1 Improvement of Requirement during Solicitation Period

Should bidders consider that the specifications or Requirements contained in the bid solicitation could be improved technically or technologically, bidders are invited to make suggestions, in writing, to the Contracting Authority named in the bid solicitation. Bidders must clearly outline the suggested improvement as well as the reason for the suggestion. Suggestions that do not restrict

Solicitation No. - N° de l'invitation
23375-200280/A
Client Ref. No. - N° de réf. du client
23375-200280

Amd. No. - N° de la modif.
File No. - N° du dossier
hl670. 23375-200280

Buyer ID - Id de l'acheteur
hl670
CCC No./N° CCC - FMS No./N° VME

the level of competition nor favour a particular bidder will be given consideration provided they are submitted to the Contracting Authority at least 20 calendar days before the bid closing date. Canada will have the right to accept or reject any or all suggestions.

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 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.

2.5 Best Delivery Date - Bid

While delivery is requested by March 31, 2020, the best delivery that could be offered is _____.

PART 3 - BID PREPARATION INSTRUCTIONS

3.1 Bid Preparation Instructions

If the Bidder chooses to submit its bid electronically, Canada requests that the Bidder submits its bid in accordance with section 08 of the 2003 standard instructions. The epost Connect system has a limit of 1GB per single message posted and a limit of 20GB per conversation.

The bid must be gathered per section and separated as follows:

Section I: Technical Bid
Section II: Financial Bid
Section III: Certifications

If the Bidder chooses to submit its bid in hard copies, Canada requests that the Bidder submits its bid in separately bound sections as follows:

Section I: Technical Bid (1 copy)
Section II: Financial Bid (1 copy)
Section III: Certifications (1 copy)

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.

If the Bidder is simultaneously providing copies of its bid using multiple acceptable delivery methods, and if there is a discrepancy between the wording of any of these copies and the electronic copy provided through epost Connect service, the wording of the electronic copy provided through epost Connect service will have priority over the wording of the other copies.

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 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 Risk Mitigation

1. The Bidder may request Canada to assume the risks and benefits of exchange rate fluctuations. If the Bidder claims for an exchange rate adjustment, this request must be clearly indicated in the bid at time of bidding. The Bidder must submit form [PWGSC TSPGC 450](#), Claim for Exchange Rate Adjustments with its bid, indicating the Foreign Currency Component (FCC) in Canadian dollars for each line item for which an exchange rate adjustment is required.
2. The FCC is defined as the portion of the price or rate that will be directly affected by exchange rate fluctuations. The FCC should include all related taxes, duties and other costs paid by the Bidder and which are to be included in the adjustment amount.
3. The total price paid by Canada on each invoice will be adjusted at the time of payment, based on the FCC and the exchange rate fluctuation provision in the contract. The exchange rate adjustment will only be applied where the exchange rate fluctuation is greater than 2% (increase or decrease).
4. At time of bidding, the Bidder must complete columns (1) to (4) on form [PWGSC-TPSGC 450](#), for each line item where they want to invoke the exchange rate fluctuation provision. Where bids are evaluated in Canadian dollars, the dollar values provided in column (3) should also be in Canadian dollars, so that the adjustment amount is in the same currency as the payment.
5. Alternate rates or calculations proposed by the Bidder will not be accepted for the purposes of this exchange rate fluctuation provision.

3.1.3 Progress Payments

Progress payments will not be considered unless specifically offered by PWGSC in this document.

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

All bids must be completed in full and provide all of the information requested in the bid solicitation to enable full and complete evaluation.

4.1.1.1 Mandatory Technical Criteria

Bidders must provide documentation with their bid showing they meet the technical requirements detailed in Annex A.

Bids not meeting the mandatory technical criterion will be declared non-responsive.

4.1.2 Financial Evaluation

4.1.2.1 Mandatory Financial Criteria

- a) The Bidder must bid a firm price in Canadian funds, Applicable Taxes excluded, DDP Delivered Duty Paid to destination(s) Incoterms 2000, Customs Duties included; and
- b) The Bidders' financial bid must be in accordance with the Basis of Payment.

Bidders not meeting the mandatory financial criteria will be declared non-responsive.

4.2 Basis of Selection

A bid must comply with the requirements of the bid solicitation and meet all mandatory technical evaluation criteria to be declared responsive. The responsive bid with the lowest evaluated price will be recommended for award of a contract.

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 Certification 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 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 property agreement of the Ineligibility and Suspension Policy (<http://www.tpsgc-pwgsc.gc.ca/ciif/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" list available at the bottom of the page of the Employment and Social Development Canada (ESDC) - Labour's website (<https://www.canada.ca/en/employment-social-development/programs/employmentequity/federal-contractorprogram.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" list at the time of contract award.

5.2.3 General Environmental Criteria Certification

The Bidder must select and complete one of the following two certification statements.

- A) The Bidder certifies that the Bidder is registered or meets ISO 14001.

Bidders' Authorized Representative Signature

Date

or

- B) The Bidder certifies that the Bidder meets and will continue to meet throughout the duration of the contract, a minimum of four (4) out of six (6) criteria identified in the table below.

The Bidder must indicate which four (4) criteria, as a minimum, are met.

Green Practices within the Bidders' organization	Insert a checkmark for each criterion that is met
Promotes a paperless environment through directives, procedures and/or programs	
All documents are printed double sided and in black and white for day to day business activity unless otherwise specified by your client	
Paper used for day to day business activity has a minimum of 30% recycled content and has a sustainable forestry management certification	
Utilizes environmentally preferable inks and purchase remanufactured ink cartridges or ink cartridges that can be returned to the manufacturer for reuse and recycling for day to day business activity.	
Recycling bins for paper, newsprint, plastic and aluminum containers available and emptied regularly in accordance with local recycling program.	
A minimum of 50% of office equipment has an energy efficient certification.	

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

There is no security requirement applicable to the Contract.

6.2 Requirement - Contract

The Contractor must provide the Shell and Tube Heat Exchanger and documentation in accordance with the Requirement at Annex A and the Contractor's technical bid entitled _____, dated _____.

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>) 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.

6.4 Term of Contract

6.4.1 Complete Delivery

The Contractor must make the complete delivery within _____ calendar days from the effective date of the Contract.

6.4.2 Adherence to Delivery Schedule

The contractor will promptly give notice to the Contracting Authority of its inability to meet the contract delivery schedule and will request therein an extension of time stating its proposed revised delivery schedule and offering consideration for such revisions. Until such notice is received and the revised delivery schedule agreed to, the Minister may, pursuant to the General Conditions, on the business day following the due date of delivery of any outstanding materials, terminate the whole or part of the contract for default.

6.5 Authorities

6.5.1 Contracting Authority

The Contracting Authority for the Contract is:

Lynn Weatherbee

Public Works and Government Services Canada

Acquisitions Branch, Commercial & Alternative Acquisitions Management Sector

Electrical, Fuel & Transportation Directorate

Fuel & Construction Products Division (HL)

140 O'Connor Street, 4th Floor, L'Esplanade Laurier, East Tower

Ottawa, ON K1A 0S5

Telephone: 873-353-1813 Facsimile: 613-943-7620

E-mail address: lynn.weatherbee@pwgsc-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 and telephone number of the person responsible for:

	General Enquiries	Delivery Follow-up
Name:	_____	_____
Telephone No.:	_____	_____
Facsimile No.:	_____	_____
E-mail address:	_____	_____

6.6 Payment

6.6.1 Basis of Payment - Firm Price

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid a firm price, DDP to destination, as specified in the contract for a cost of \$ _____ CAD (*insert the 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.

6.6.2 Terms of Payment

6.6.2.1 SACC Manual Clauses

The following terms and conditions are incorporated herein

SACC Reference	Section	Date
H1000C	Single Payment	2008-05-12

6.6.3 Exchange Rate Fluctuation Adjustment

1. The foreign currency component (FCC) is defined as the portion of the price or rate that will be directly affected by exchange rate fluctuation. The FCC should include all related taxes, duties and other costs paid by the Bidder and which are to be included in the adjustment amount.

2. For each line item where a FCC is identified, Canada assumes the risks and benefits for exchange rate fluctuation, as shown in the Basis of Payment. For such items, the exchange rate fluctuation amount is determined in accordance with the provision of this clause.

3. The total price paid by Canada on each invoice will be adjusted at the time of payment. The exchange rate adjustment amount will be calculated in accordance with the following formula: Exchange rate adjustment = $FCC \times Qty \times (i_1 - i_0) / i_0$ where formula variables correspond to:

FCC Foreign currency component (per unit)

Qty quantity of units

i_0 Initial exchange rate (CAN\$ per unit of foreign currency [for example US\$1]). The initial exchange rate is set as the Bank of Canada rate on the solicitation closing date. The Bank of Canada publishes its rates each business day by 16:30 Eastern Time.

i_1 Exchange rate for adjustments (ERA) (CAN\$ per unit of foreign currency [for example US\$1]). The Bank of Canada publishes its rates each business day by 16:30 Eastern Time.

- a) The ERA for goods will be the Bank of Canada rate on the date the goods were delivered.
- b) The ERA for services will be the Bank of Canada rate on the last business day of the month for which the services were performed.
- c) The ERA for advance payments will be the Bank of Canada rate on the last business day prior to the payment. The last published business day rate will be used for non-business days.

4. The Contractor must indicate the total exchange rate adjustment amounts (whether they are upward, downward or present no change) as a separate item on each invoice or claim for payment submitted under the Contract. Where an adjustment applies, the Contractor must submit with their invoice form PWGSC-TPSGC 450, Claim for Exchange Rate Adjustments.

5. The exchange rate adjustment will only impact the payment to be made by Canada where the exchange rate fluctuation is greater than 2% (increase or decrease), calculated in accordance with column 8 of form PWGSC-TPSGC 450. (that is $[i_1 - i_0] / i_0$).

6. Canada reserves the right to audit any revision to costs and prices under this clause.

6.6.4 Electronic Payment of Invoices – Contract

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

- a. Visa Acquisition Card;
- b. MasterCard Acquisition Card;
- c. Direct Deposit (Domestic and International);
- d. Electronic Data Interchange (EDI);
- e. Wire Transfer (International Only);
- f. Large Value Transfer System (LVTS) (Over \$25M)

6.7 Invoicing Instructions

The Contractor must submit invoices in accordance with Section 10 of 2010A, General Conditions - Goods (Medium Complexity). One (1) copy must be forwarded to the Contracting Authority identified under the section entitled "Authorities" of the Contract.

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 _____.

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) Goods (Medium Complexity);
- (c) Annex A, Requirement; and
- (d) the Contractor's bid dated _____, as clarified on _____ or as amended on _____”

6.11 SACC Manual Clauses

The following terms and conditions are incorporated herein

SACC Reference	Section	Date
G1005C	Insurance – No Specific Requirement	2016-01-28

6.12 Shipping Instructions - Delivery at Destination

1. Goods must be consigned to the destination specified in the Contract and delivered:
 - (a) Delivered Duty Paid (DDP) to Natural Resources Canada, CanmetENERGY, 1 Haanel Drive, Ottawa ON K1A 1M1 Incoterms 2000 for shipments from commercial contractor.
2. The Contractor is responsible for all delivery charges, administration, costs and risk of transport and customs clearance, including the payment of customs duties and applicable taxes.

ANNEX A - REQUIREMENT

Section 1: Objective and Background

Natural Resources Canada-CanmetENERGY has a requirement for the design, supply and delivery of a Shell and Tube Heat Exchanger, which must meet all of the Mandatory Technical Requirements as specified below and the Mandatory Evaluation Criteria as specified below in Annex B.

Section 2: Deliverables

The contractor must design and supply a shell and tube heat exchanger, suitable for heating inlet process air with the heat from vitiated air, which meets all of the requirements specified in Section 3 and Appendix A below.

The deliverables are as follows:

- **Heat exchanger shell(s)**
- **Flanged tube bundle**
- **Documentation and Drawings as follows:**
 - 2.1) The contractor must provide, upon delivery of the heat exchanger, one hard copy and one electronic copy of all documentation listed in this section, in English.
 - 2.2) Manuals for all provided equipment and instrumentation must be provided, including:
 - Operation manual
 - Maintenance manual
 - Maintenance procedures (if not included in maintenance manual)
 - 2.3) Technical drawings of the heat exchanger must be provided, including:
 - General arrangement drawings
 - Mechanical drawings
 - 2.4) Pressure vessel drawings, calculations and registration must be provided upon delivery of the heat exchanger, including:
 - Pressure vessel code calculations per American Society of Mechanical Engineers (ASME)
 - Form U-A1 Manufacturers Data Report for Pressure Vessels
 - Fabrication drawings
 - Canadian Registration Number (CRN) from the Technical Standards and Safety Authority (TSSA).
 - 2.5) The contractor must submit approval drawings within 2 weeks of contract award and obtain approval from the client before starting fabrication of the heat exchanger.

Section 3 – General Technical and Mandatory Requirements

The Contractor must deliver the Shell and Tube Heat Exchanger in accordance with the mandatory technical requirements specified below.

A. Heat Exchanger Configuration

- A3.1) The heat exchanger must be a shell and tube-type, designed and manufactured per the Tubular Exchanger Manufacturers Association (TEMA) standard.
- A3.2) The shell side fluid is clean, dried compressed air with a 5°C dew point.
- A3.3) The tube side fluid is vitiated air (approximately 95 vol% nitrogen, 5 vol% oxygen). This fluid may contain up to 0.3 g/L of ilmenite ore particulate with an average size less than 75 µm.
- A3.4) The heat exchanger(s) must be sized by the contractor based on the flowrates, temperatures, pressures and physical properties specified in Appendix A.
- A3.5) The heat exchanger(s) must be TEMA type BES.
- A3.6) Shell diameter to be specified by the contractor up to a maximum outside diameter of 219 mm.
- A3.7) The design must include two (2) shells in series, in order to limit the overall length of the combined heat exchanger. Each shell of the heat exchanger must not exceed 3.0 m in length, including the front and rear heads.
- A3.8) The design must be limited to one shell pass per shell.
- A3.9) The design must be limited to one tube pass per shell.
- A3.10) The number of tubes, tube length, diameter, pitch and pattern are to be specified by the contractor to meet the requirements of Appendix A.
- A3.11) Plain tubes must be used. (i.e. no fins or other surface enhancements)
- A3.12) Baffles must be installed in the shell and designed by the contractor per the requirements of Appendix A.
- A3.13) Baffles must be horizontal cut single segmental type.
- A3.14) Baffle number, spacing and size to be specified by the contractor.
- A3.15) The heat exchanger to be designed for vertical mounting.
- A3.16) The heat exchanger must be insulated to ensure an external cladding temperature of no more than 60°C.
- A3.17) Mineral wool or equivalent insulation must be used. Maximum use temperature of the selected insulation must be no less than the tube side design temperature specified in Appendix A.
- A3.18) Insulation must have aluminum cladding or equivalent.
- A3.19) Main body flanges between the shell and heads must have removable insulation blankets. The blankets must be suitable for shell side operating temperature, as outlined in Section B3.7 Mechanical Requirements. Blankets must be fastened with velcro straps.
- A3.20) Insulation for nozzle flanges to be provided by others.

B. Mechanical Requirements

- B3.1 The heat exchanger must be designed and fabricated per the TEMA class R – refinery service standard.
- B3.2) Each shell of the heat exchanger must be equipped with the following nozzles:
- One (1) shell side inlet nozzle, flanged per ASME B16.5, sized by contractor per flowrate as detailed in Appendix A.
 - One (1) shell side outlet nozzle, flanged per ASME B16.5, sized by contractor per flowrate as detailed in Appendix A.
 - One (1) tube side inlet nozzle, flanged per ASME B16.5, sized by contractor per flowrate as detailed in Appendix A.
 - One (1) tube side outlet nozzle, flanged per ASME B16.5, sized by contractor per flowrate as detailed in Appendix A.
 - One (1) 19 mm (0.75") drain located on the bottom of the rear head.
- B3.3) Nozzle orientation set by contractor. Final nozzle orientation to be confirmed at drawings approval by client, per Section 2 Deliverables part 2.5.
- B3.4) The heat exchanger must have mounting hardware suitable for vertical wall mounting.
- B3.5) The heat exchanger must have lifting lugs on the shell, front head and rear head. Lifting lugs must be long enough to facilitate lifting with insulation installed.
- B3.6) The design temperature of the tube side must be 485°C.
- B3.7) The design temperature of the shell side must be 385°C.
- B3.8) The design pressure of both the shell and tube side must be 2000 kPa(g).
- B3.9) Heat exchanger must be designed per ASME Section VIII, Division 1, 2019.
- B3.10) Heat exchanger must conform to the Technical Standards and Safety Act (TSSA), 2000 and applicable regulations, codes, and standards.
- B3.11) Heat exchanger must have a Canadian Registration Number (CRN) in the province of Ontario.
- B3.12) The materials of construction must meet the requirements laid out in Appendix A.

Solicitation No. - N° de l'invitation
 23375-200280/A
 Client Ref. No. - N° de réf. du client
 23375-200280

Amd. No. - N° de la modif.
 File No. - N° du dossier
 hl670. 23375-200280

Buyer ID - Id de l'acheteur
 hl670
 CCC No./N° CCC - FMS No./N° VME

Appendix A - Shell and Tube Heat Exchanger Specification Sheet

General Information				
Service:	Shell and Tube Heat Exchanger		P&ID Tag:	HX-203-001
Project:	PCLC Pilot Plant		Date:	
Location:	CanmetENERGY, Ottawa, ON			
Operating Conditions				
	SHELL SIDE		TUBE SIDE	
Fluid (Components & wt. %):	Air (5°C dew point)		95% Nitrogen, 5% Oxygen	
Total Flow:	kg/h	817	685	
		IN	OUT	
Vapor:	kg/h	817	817	685
Liquid:	kg/h	-	-	-
Non-Condensables:	kg/h	-	-	-
Fluid Vaporized/Condensed:	kg/h	-		-
Density - Vapour:	kg/m ³	5.99	4.09	3.18
Viscosity - Vapour:	mPa-s	0.0244	0.0311	0.0338
MW - Vapour:		28.95		28.21
Specific Heat:	kJ/kg K	1.019	1.054	1.101
Thermal Conductivity	W/mK	0.0351	0.0469	0.0525
Temperature:	°C	160	350	450
Operating Pressure:	kPa(g)	745	Note 1	680
Velocity:	m/s	Note 1	Note 1	Note 1
Pressure Drop (allow/calc):	kPa	25 / Note 1		25 / Note 1
Heat Exchanged:	kW	Note 1		
Fouling Resistance:	m ² K/W	0.0001		0.0001
Effective Surface Area:	m ²	Note 1		
Design Details				
Type of Heat Exchanger:	Shell and tube, TEMA type BES			
Details:	Vertical, 1 Shell pass, 1 tube pass, 2 parallel shells			
Tube No.:	Note 1	Tube OD/ID:	mm	Note 1 / Note 1
Tube Length:	mm	Tube Type:	Plain	
Tube Pattern:	Note 1	Type Pitch:	mm	Note 1
Shell OD/ID:	mm	Note 2 / Note 1		
	SHELL SIDE		TUBE SIDE	
Design Pressure:	kPa(g)	2000		2000
Test Pressure:	kPa(g)	Note 1		Note 1
Design Temperature:	°C	385		485
Corrosion Allowance:	Mm	Note 1		Note 1
Code Requirements:	ASME Section VIII Div 1			
TEMA Class:	Class R – refinery service			
Materials of Construction				
Shell:	304/304L	Bonnet:	304/304L	
Shell cover :	304/304L	Floating head cover:	304/304L	
Tubes:	304/304L	Tubesheet :	304/304L	
Baffles:	304/304L			
Notes:				
<ol style="list-style-type: none"> 1) Specified/calculated by contractor. 2) Specified by contractor; must be no larger than 219 mm. 3) This value is an estimate. Contractor to verify based on heat balance. 				

Annex B - Mandatory Technical Compliance Matrix for Evaluation Purposes

Mandatory requirements imposed on the Bidders must be met by bid closing deadline.

In this RFP document the specific **mandatory** requirements of the Bidder are identified by the use of “**shall (M)**”, “**must (M)**”, “**will (M)**”, “**will (M) not**”, “**shall (M) not**” and “**must (M) not**”. Proposals that do not meet the **mandatory** requirements will be considered non-responsive.

Bidders should cross reference the mandatory technical criteria in a concise format by using page, paragraph(s) and sub-paragraphs as applicable to their supporting technical documentation.

Mandatory Requirements	Contractor to check if compliant	Contractor to reference Page #
Heat Exchanger Configuration		
The heat exchanger must be a shell and tube-type, designed and manufactured per the Tubular Exchanger Manufacturers Association (TEMA) standard.		
The heat exchanger(s) must be sized by the contractor based on the flowrates, temperatures, pressures and physical properties specified Appendix A - Shell and Tube Heat Exchanger Specification Sheet.		
The heat exchanger(s) must be TEMA type BES.		
Shell diameter to be specified by the contractor up to a maximum outside diameter of 219 mm.		
The design must include two (2) shells in series, in order to limit the overall length of the combined heat exchanger. Each shell of the heat exchanger must not exceed 3.0 m in length, including the front and rear heads.		
The design must be limited to one shell pass per shell.		
The design must be limited to one tube pass per shell.		
The number of tubes, tube length, diameter, pitch and pattern are to be specified by the contractor to meet the requirements of as detailed in Appendix A - Shell and Tube Heat Exchanger Specification Sheet.		
Plain tubes must be used. (i.e. no fins or other surface enhancements)		

Solicitation No. - N° de l'invitation
 23375-200280/A
 Client Ref. No. - N° de réf. du client
 23375-200280

Amd. No. - N° de la modif.
 File No. - N° du dossier
 hl670. 23375-200280

Buyer ID - Id de l'acheteur
 hl670
 CCC No./N° CCC - FMS No./N° VME

Baffles must be installed in the shell and designed by the contractor per the requirements of as detailed in Appendix A - Shell and Tube Heat Exchanger Specification Sheet.		
Baffles must be horizontal cut single segmental type.		
The heat exchanger to be designed for vertical mounting.		
The heat exchanger must be insulated to ensure an external cladding temperature of no more than 60°C.		
Mineral wool or equivalent insulation must be used. Maximum use temperature of the selected insulation must be no less than the tube side design temperature specified in Appendix A - Shell and Tube Heat Exchanger Specification Sheet.		
Insulation must have aluminum cladding or equivalent.		
Main body flanges between the shell and heads must have removable insulation blankets. The blankets must be suitable for shell side operating temperature, per Annex A – General Technical and Mandatory Requirements Section B3.7 Blankets must fastened with velcro straps.		
Mechanical requirements		
The heat exchanger must be designed and fabricated per the TEMA class R – refinery service standard.		
Each shell of the heat exchanger must be equipped with the following nozzles:		
<ul style="list-style-type: none"> One (1) shell side inlet nozzle, flanged per ASME B16.5, sized by contractor per flowrate as detailed in Appendix A - Shell and Tube Heat Exchanger Specification Sheet. 		
<ul style="list-style-type: none"> One (1) shell side outlet nozzle, flanged per ASME B16.5, sized by contractor per flowrate as detailed in Appendix A - Shell and Tube Heat Exchanger Specification Sheet. 		
<ul style="list-style-type: none"> One (1) tube side inlet nozzle, flanged per ASME B16.5, sized by contractor per flowrate as detailed in Appendix A - Shell and Tube Heat Exchanger Specification Sheet. 		
<ul style="list-style-type: none"> One (1) tube side outlet nozzle, flanged per ASME B16.5, sized by contractor per flowrate as detailed in Appendix A - Shell and Tube Heat Exchanger Specification Sheet. 		
<ul style="list-style-type: none"> One (1) 19 mm (0.75") drain located on the bottom of the rear head. 		
The heat exchanger must have mounting hardware suitable for vertical wall mounting.		
The heat exchanger must have lifting lugs on the shell, front head and rear head. Lifting lugs must be long enough to facilitate lifting with insulation installed.		
The design temperature of the tube side must be 485°C.		

Solicitation No. - N° de l'invitation
23375-200280/A
Client Ref. No. - N° de réf. du client
23375-200280

Amd. No. - N° de la modif.
File No. - N° du dossier
hl670. 23375-200280

Buyer ID - Id de l'acheteur
hl670
CCC No./N° CCC - FMS No./N° VME

The design temperature of the shell side must be 385°C.		
The design pressure of both the shell and tube side must be 2000 kPa(g).		
Heat exchanger must be designed per ASME Section VIII, Division 1, 2019.		
Heat exchanger must conform to the Technical Standards and Safety Act (TSSA), 2000 and applicable regulations, codes, and standards.		
The materials of construction must meet the requirements as detailed in Appendix A - Shell and Tube Heat Exchanger Specification Sheet.		

Solicitation No. - N° de l'invitation
23375-200280/A
Client Ref. No. - N° de réf. du client
23375-200280

Amd. No. - N° de la modif.
File No. - N° du dossier
hl670. 23375-200280

Buyer ID - Id de l'acheteur
hl670
CCC No./N° CCC - FMS No./N° VME

ANNEX C – Electronic Payment Instruments

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

- VISA Acquisition Card;
- MasterCard Acquisition Card;
- Direct Deposit (Domestic and International);
- Electronic Data Interchange (EDI);
- Wire Transfer (International Only);
- Large Value Transfer System (LVTS) (Over \$25M)