



**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

Vendor/Firm Name and Address

**Raison sociale et adresse du
fournisseur/de l'entrepreneur**

Issuing Office - Bureau de distribution

Vehicles & Industrial Products Division
11 Laurier St./11, rue Laurier
7A2, Place du Portage, Phase III
Gatineau, Québec K1A 0S5

Title - Sujet Pump/Compressor	
Solicitation No. - N° de l'invitation 23375-170383/B	Date 2016-10-24
Client Reference No. - N° de référence du client 23375-170383	
GETS Reference No. - N° de référence de SEAG PW-\$\$HP-404-71762	
File No. - N° de dossier hp404.23375-170383	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2016-12-05	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: Michele Mak	Buyer Id - Id de l'acheteur hp404
Telephone No. - N° de téléphone (873) 469-3338 ()	FAX No. - N° de FAX () -
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: DEPARTMENT OF NATURAL RESOURCES 1 HAANEL DR. Scott Champagne 613-617-3063 OTTAWA Ontario K1A1M1 Canada	

Instructions: See Herein

Instructions: Voir aux présentes

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

This bid solicitation cancels and supersedes previous bid solicitation number 23375-170383/B, dated 15 August 2016 with a closing of 26 September 2016 at 2:00 p.m. EDST

REQUEST FOR PROPOSAL (RFP)

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Solicitation No. - N° de l'invitation
23375-170383/B

Amd. No. - N° de la modif.

Buyer ID - Id de l'acheteur
hp404

Client Ref. No. - N° de réf. du client
23375-170383

File No. - N° du dossier
hp40423375-170383

CCC No./N° CCC - FMS No./N° VME

Attachments

Annex "A" – Pricing

Annex “B” - Mandatory Requirements & Specifications / Supercritical Carbon Dioxide Pump

PART 1 - GENERAL INFORMATION

1.1 Requirement

Natural Resources Canada requires One (1) Supercritical Carbon Dioxide Pump as detailed herein, in accordance with Annex "A" – Pricing and Annex "B" – Mandatory Requirements & Specifications / Supercritical Carbon Dioxide Pump attached hereto..

1.2 Debriefings

Bidders may request a debriefing on the results of the bid solicitation. Bidders should make the request to the Contracting Authority within 15 working days of receipt of notification that their bid was unsuccessful. The debriefing may be provided in writing, by telephone or in person.

1.3 Trade Agreements

The requirement is subject to the provisions of the North American Free Trade Agreement (NAFTA), and the Agreement on Internal Trade (AIT).

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 [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>) 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 (2016-04-04) 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: sixty (60) days

Insert: ninety (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 on page 1 of the bid solicitation.

2.3 Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than seven (7) 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 questions or may request that the Bidder do so, so that the proprietary nature of the question 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 Improvement of Requirement During Solicitation Period

Should bidders consider that the specifications or Statement of Work 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 the level of competition nor favour a particular bidder will be given consideration provided they are submitted to the Contracting Authority at least **seven (7)** calendar days before the bid closing date. Canada will have the right to accept or reject any or all suggestions.

PART 3 - BID PREPARATION INSTRUCTIONS

3.1 Bid Preparation Instructions

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 copy)

Section III: Certifications (1 hard copy)

Section IV: Additional Information (1 hard copy)

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

- (a) use 8.5 x 11 inch (216 mm x 279 mm) paper and
- (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 (<http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html>). To assist Canada in reaching its objectives, bidders should:

- 1) use 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.

Annex “B” – Mandatory Requirements & Specifications / Supercritical Carbon Dioxide Pump

3.2 Equivalent Products

3.2.1 Products that are equivalent in form, fit, function and quality to the item(s) specified in the bid solicitation will be considered where the Bidder:

- (a) designates the brand name, model and/or part number of the substitute product;
- (b) states that the substitute product is fully interchangeable with the item specified;
- (c) provides complete specifications and descriptive literature for each substitute product;
- (d) provides compliance statements that include technical specifics showing the substitute product meets all mandatory performance criteria that are specified in the bid solicitation; and
- (e) clearly identifies those areas in the specifications and descriptive literature that support the substitute product's compliance with any mandatory performance criteria.

3.2.2 Products offered as equivalent in form, fit, function and quality will not be considered if:

- (a) the bid fails to provide all the information requested to allow the Contracting Authority to fully evaluate the equivalency of each substitute product; or
- (b) the substitute product fails to meet or exceed the mandatory performance criteria specified in the bid solicitation for that item.

3.2.3 In conducting its evaluation of the bids, Canada may, but will have no obligation to, request bidders offering a substitute product to demonstrate, at the sole cost of bidders, that the substitute product is equivalent to the item specified in the bid solicitation.

Section II: Financial Bid



3.3 Pricing

The Bidders must submit their prices in Annex “A”- Pricing and in accordance with the Basis of Payment identified in PART 6 - RESULTING CONTRACT CLAUSES.

Prices should not be indicated in any other section of the bid.

3.3.1 SACC Manual Clauses

3.3.2 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-TPSGC 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.

Section III: Certifications

Bidders must submit the certifications required under PART 5 - CERTIFICATIONS.

Section IV: Additional Information

Canada requests that bidders submit the following information:

1. Delivery

While delivery of the Supercritical Carbon Dioxide Pump is requested by March 31, 2017 the best delivery that can be offered is as follows:

Item 001 – **Quantity One (1)** Supercritical Carbon Dioxide Pump will be delivered within _____ calendar days from the effective date of the contract.

2. Manufacturer's Standard Warranty Period

Canada requests that the Bidder provide details of the manufacturer's standard warranty period for the equipment and its component that exceeds the minimum warranty period of twelve (12) months.

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

4.1.1.1 Bidders must submit, with their bid , the followings documents:

- 1) Annex “B” - Mandatory Requirements & Specifications / Supercritical Carbon Dioxide Pump, attached hereto;

4.1.1.2 Equivalent Products

Bidders proposing substitutes and/or alternatives must provide with their bid all the information requested as detailed in Part 3, “equivalent products” to be considered for evaluation.

4.1.2 Financial Evaluation

- 4.1.2.1 The purpose of the financial evaluation is to determine the lowest price using the information submitted in Annex “A” - Pricing.

4.1.2.2

4.2 Basis of Selection

A bid must comply with the requirements of the bid solicitation and meet all mandatory requirements 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 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 *Ineligibility and Suspension Policy* (<http://www.tpsgc-pwgsc.gc.ca/ci-if/politique-policy-eng.html>), the Bidder must provide with its bid the required documentation, as applicable, 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 *Ineligibility and Suspension Policy* (<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](#)" list available at the bottom of the page of the [Employment and Social Development Canada \(ESDC\) - Labour's](#) website (http://www.esdc.gc.ca/en/jobs/workplace/human_rights/employment_equity/federal_contractor_program.page?&_ga=1.229006812.1158694905.1413548969).

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 Additional Certifications Precedent to Contract Award

The certifications listed below should be completed and submitted with the bid, but may be submitted afterwards. If any of these required certifications 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 comply with the request of the Contracting Authority and to provide the certifications within the time frame provided will render the bid non-responsive.

5.2.3.1 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.	

Bidders' Authorized Representative Signature

Date

PART 6 - RESULTING CONTRACT CLAUSES

6.1 Requirement

The Contractor must deliver **Quantity One (1) Supercritical Carbon Dioxide Pump/Compressor** in accordance with Annex "A" – Pricing and Annex "B" – Mandatory Requirements & Specifications / Supercritical Carbon Dioxide Pump/Compressor .

6.2. 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 [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.

6.2.1 General Conditions

2010A (2016-04-04), General Conditions - Goods (Medium Complexity), apply to and form part of the Contract.

6.3. Term of Contract

6.3.1 Delivery :

Delivery of the Supercritical Carbon Dioxide Pump must be made as follows:

Item 001 - Quantity One (1)) Supercritical Carbon Dioxide Pump must be delivered on or before _____ (Date to be inserted by PWGSC at time of contract award.)

6.4 Authorities

6.4.1 Contracting Authority

The Contracting Authority for the Contract is:

Michele Mak
Supply Specialist
Public Works and Government Services Canada - Acquisitions Branch
LEFT Directorate, HP Division,

7A2, Place du Portage, Phase 3, 11 Laurier Street, Gatineau Quebec. K1A 0S5
Telephone: 873-469-3338

E-mail address: michele.mak@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.

6.4.2 Procurement Authority

The Procurement Authority for the Contract is:

Name: _____ (To be inserted by PWGSC at time of contract award.)

Natural Resources Canada
CanmetENERGY
1 Hannel Drive
Ottawa, ON
K1A 1M1

The Procurement Authority is the representative of the department or agency for whom the Work is being carried out under the Contract. The Procurement Authority is responsible for the implementation of tools and processes required for the administration of the Contract. The Contractor may discuss administrative matters identified in the Contract with the Procurement Authority however the Procurement Authority has no authority to authorize changes to the scope of the Work. Changes to the scope of Work can only be made through a contract amendment issued by the Contracting Authority.

6.4.3 Technical Authority:

The Technical Authority for the Contract is:

Name: _____ (To be inserted by PWGSC at time of contract award.)

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.

6.4.4 Contractor's Representative

Name and telephone number of the person responsible for:

General enquiries

Name: _____ (To be completed by the bidder.)

Title: _____

Telephone: _____

Facsimile: _____

E-mail: _____

Delivery follow-up

Name: _____ (To be completed by the bidder.)

Title: _____

Telephone: ____ - ____ - ____

Facsimile: ____ - ____ - ____

E-mail: _____

6.4.5 After Sales Service

- 6.4.5.1 The following dealer and/or agent is authorized to provide after sales service, maintenance and warranty repairs; and a full range of repair parts for the equipment offered:

Item 001

Name: _____

Address: _____

Telephone Number: _____

Distance between the delivery location and the dealer and/or agent: _____ km

6.5. Payment

6.5.1 Basis of Payment

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid the firm unit price(s) specified in Annex "A" – Pricing, and as follows:

Basis of Payment (BOP) Type 1:

Canada will make milestone payments in accordance with the Schedule Of Milestones detailed in the Contract and the payment provisions of the Contract if:

- (a) an accurate and complete claim for payment using PWGSC-TPSGC 1111, Claim for Progress Payment, and any other document required by the Contract have been submitted in accordance with the invoicing instructions provided in the Contract;
- (b) all the certificates appearing on form PWGSC-TPSGC 1111 have been signed by the respective authorized representatives;
- (c) all work associated with the milestone and as applicable any deliverable required has been completed and accepted by Canada.
- (d) The schedule of milestones for which payments will be made in accordance with the Contract is as follows:

Milestone No.	Deliverable	Percentage / Amount	Due Date
1	Engineering drawings in Annex "B"	15% / ____	
2	Completion of manufacturing, final inspection report and verifications of the finished compressor package.	75% / ____	

3	Delivery of compressor to final destination.	10% / _____	
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*** Note: Amount and due date to be inserted at Contract award**

- (e) Firm unit prices in Canadian dollars, Delivered Duty Paid, Incoterms 2000, at destination for Milestone No. 1, 2, and 3, including Canadian Custom Duties and Excise Taxes included where applicable, and applicable Taxes extra.
- (f) The price paid will be adjusted in accordance with the exchange rate fluctuation Provision for Milestone No. 1, 2, and 3. (as applicable)

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.

6.5.2 SACC Manual Clauses

H1001C	Multiple Payment	2008-05-12
C2000C	Taxes – Foreign-based Contractor	2007-11-30

6.5.3 Exchange Rate Fluctuation Adjustment (if Applicable)

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, based on the FCC and the exchange rate fluctuation provisions in the contract. The exchange rate adjustment amount will be calculated in accordance with the following formula:

$$Adjustment = FCC \times Qty \times (i_1 - i_0) / i_0$$

where formula variables correspond to:

FCC Foreign Currency Component (per unit)

i_0

Initial exchange rate (CAN\$ per unit of foreign currency [e.g. US\$1])

i_1

exchange rate for adjustments (CAN\$ per unit of foreign currency [e.g. US\$1])

Qty quantity of units

4. The initial exchange rate is typically set as the noon rate as published by the Bank of Canada on the solicitation closing date.
5. For goods, the exchange rate for adjustment will be the noon rate as published by the Bank of Canada on the date the goods were delivered. For services, the exchange rate for adjustment will be the noon rate on the last business day of the month for which the services were performed. For advance payments, the exchange rate for adjustment will be the noon rate on the date the payment was due. The most recent noon rate will be used for non-business days.
6. The Contractor must indicate the total exchange rate adjustment amount (either upward, downward or 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.
7. The exchange rate adjustment will only be applied where the exchange rate fluctuation is greater than 2% (increase or decrease), calculated in accordance with column 8 of form [PWGSC-TPSGC 450](#) (i.e. $[i_1 - i_0] / i_0$).
8. Canada reserves the right to audit any revision to costs and prices under this clause.

6.6 Invoicing Instructions

6.6.1 Invoicing Instructions - Progress Payment Claim Basis of Payment Type 1

6.6.1.1 The Contractor must submit a claim for payment using form PWGSC-TPSGC 1111, Claim for Progress Payment

Each claim must show:

- (a) all information required on form PWGSC-TPSGC 1111;
- (b) all applicable information detailed under the section entitled "Invoice Submission" of the general conditions;
- (c) the description and value of the milestone claimed as detailed in the Contract.

Each claim must be supported by:

- (a) a copy of the release document and any other documents as specified in the Contract;
- (b) Inspection certificate;

6.6.1.2. The applicable taxes, as applicable.

6.6.1.3. The Contractor must prepare and certify one original and two (2) copies of the claim on form PWGSC-TPSGC 1111, and forward it to the Technical Authority identified under the section entitled "Authorities" of the Contract for appropriate certification after inspection and acceptance of the Work takes place.

The Technical Authority will then forward the original and two (2) copies of the claim to the Contracting Authority for certification and onward submission to the Procurement Authority for the remaining certification and payment action.

6.6.1.4. The Contractor must not submit claims until all work identified in the claim is completed.

6.7 Certifications

6.7.1 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.

6.8 Applicable Laws

The Contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in **Ontario**.

6.9 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 (2016-04-04) General Conditions - Goods (MediumComplexity);
- (c) Annex "A" - Pricing;
- (d) Annex "B" – Mandatory Requirements & Specifications / Supercritical Carbon Dioxide Pump/Compressor;
- (e) the Contractor's bid dated _____.

6.10 SACC Manual Clauses

The following clauses set out in the SACC Manual must form part of this Contract:

A1009C	Work Site Access	2008-05-12
A9068C	Government Site Regulations	2010-01-11
B1505C	Shipment of Hazardous Materials	2006-06-16
G1005C	Insurance	2008-05-12

6.11 Inspection and Acceptance

The Technical Authority is the Inspection Authority. All reports, deliverable items, documents, goods and all services rendered under the Contract are subject to inspection by the Inspection

Authority or representative. Should any report, document, good or service not be in accordance with the requirements of the Statement of Work and to the satisfaction of the Inspection Authority, as submitted, the Inspection Authority will have the right to reject it or require its correction at the sole expense of the Contractor before recommending payment.

6.12 Preparation for Delivery

The equipment must be serviced, adjusted and delivered in condition for immediate use.

6.13 Shipping Instructions - DDP Destination

The Contractor must ship the goods prepaid DDP - Delivered Duty Paid (as detailed in Annex "A"- Pricing). Unless otherwise directed, delivery must be made by the most economical means. The Contractor is responsible for all delivery charges, administration, costs and risks of transport and customs clearance, including the payment of customs duties and taxes.

6.14 Material

Material supplied must be new, unused and of current production.

6.15 Packaging

The methods used for preservation and packaging must be in conformity with the contractor's normal standard for domestic shipment or, if necessary, with standards for overseas shipment (as below deck cargo).

Annex "A"

Item 001 Supercritical Carbon Dioxide Pump/Compressor

The Contractor must deliver the equipment in accordance with the attached Annex "B" – Mandatory Requirements & Specifications – Supercritical Carbon Dioxide Pump / Compressor

The Pump/Compressor and related items must be delivered to:

National Resources Canada
CanmetENERGY
1 Haanel Road
Ottawa, Ontario
K1A 1M1

Delivery contact: _____ (Name to be inserted by PWGSC at time of contract award.)

Date of delivery: _____ (Date to be inserted by PWGSC at time of contract award.)

Firm Lot price of \$ _____

For the **Supercritical Carbon Dioxide Pump/Compressor** including all related Items, in accordance with Basis of Payment Type 1 (as detailed at Clause 6.5.1 Basis of Payment).

Manufacturer and Model – For **Supercritical Carbon Dioxide Pump** (to be inserted by PWGSC at time of contract award.)

Manufacturer: _____ Model: _____

Quantity: One (1)

Supercritical Carbon Dioxide Pump/Compressor – Mandatory Requirements and Specifications

The Bidder is to supply a compressor or pump package for the CanmetENERGY supercritical carbon dioxide system based on the following specifications. Due to high density and compressibility of supercritical CO₂, a pump or a compressor is acceptable provided the flow and pressure requirements are met. The pump or compressor must be able to circulate supercritical carbon dioxide in a heat transfer loop, as detailed in Figure 1.

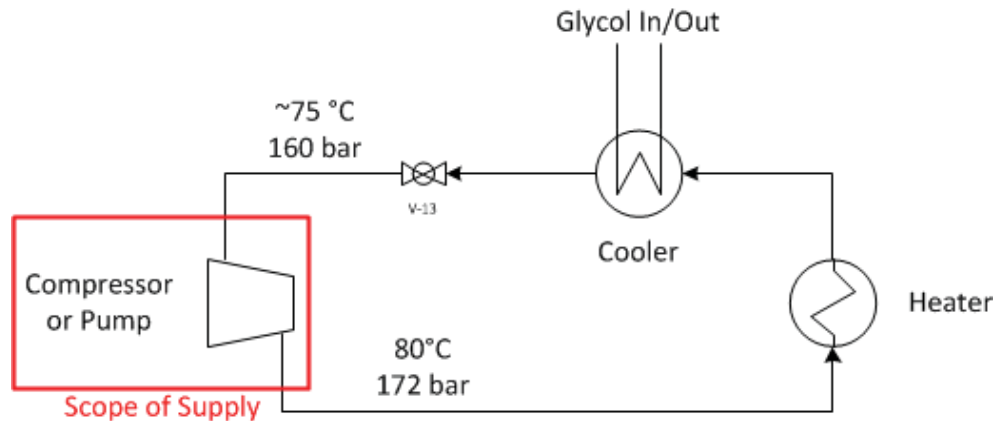


Figure 1 - Pump/Compressor use case

The pump or compressor package must be skid mounted and include all necessary equipment for operation such as the compressor/pump, hardware, gas plumbing, electrical/control components, PLC control panel, gauges, sensors and instrumentation.

Cooling water (50 wt% H₂O, 50 wt% Propylene Glycol) is available for use in the destination facility. Water is supplied between 10-30°C and the system has a maximum return temperature of 70°C.

All bidders must meet the minimum requirements stated below.

Item #	Requirement/Specification	Min.	Nominal	Max.	Compliant (YES/NO)
1)	Suction Temperature (°C)	30	75	90	
2)	Suction Pressure (barg)	150	160	170	
3)	Outlet Temperature (°C)	50	-	150	
4)	Outlet Pressure (barg)	160	172	175	
5)	Ambient Temperatures (°C)	20	22	40	
6)	Outlet mass flow rate (kg CO ₂ /hr)	950	2600	2600	
7)	Compressor cooling (if required)	Air or Water Cooled			

8)	Acceptable Drive Types	Electric	
9)	Motor voltage (VAC)	575	
10)	Motor frequency (Hz)	60	
11)	Motor duty rating	Continuous	
12)	Motor type	Totally Enclosed Fan Cooled (TEFC)	

Item #	Additional Mandatory Requirements	Compliant (YES/NO)
13)	The contractor must provide verification documentation of pump or compressor operation upon delivery of the compressor package to the client. Documentation to include: CO ₂ flow rate at specified suction and discharge pressures and temperatures, air cooler performance and operation of all associated instrumentation, gauges and sensors included in the compressor package. The contractor must include detailed test descriptions and results in the documentation package. All testing and verifications to be performed on the finished compressor package prior to delivery to the client.	
14)	All process gas connections must be flanged (ASME B16.5)	
15)	Supply any required pressure safety valves to prevent over pressurization of the pump/compressor.	
16)	The compressor will be installed in a Class 1, Zone 2 hazardous rated area. The control panel can be remotely mounted in a non-hazardous area if required.	
17)	CSA approval or equivalent required on any supplied electrical components	
18)	Any supplied control system must be able to communicate via Modbus protocol with an ABB Freelance DCS system OR have sufficient hardwired status indication (analog or digital, 24 VDC) for operating status of the compressor to be integrated with an ABB Freelance DCS system	
19)	Contractor must supply documentation (1 hard copy & 1 electronic copy) including operation and maintenance manuals, maintenance procedures, drawings, spare parts list and manufacturers data for accessories	
20)	Compressor/pump must be oil-free on process gas side	
21)	A preliminary performance curve for the proposed pump or compressor must be provided with the bid.	
22)	The compressor/pump noise must not exceed 85dB at 1m.	
23)	The pump/compressor must be supplied with a control panel that includes all necessary controllers and instruments required to operate the compressor. The following signals are also required to integrate with a distributed control system:	

	<ul style="list-style-type: none">• Run permissive contact (24 VDC)• Fault signal (24 VDC)• Remote start/stop	
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