



RETURN BIDS TO:

RETOURNER LES SOUMISSIONS À:

**Bid Receiving Public Works and Government
Services Canada/Réception des soumissions
Travaux publics et Services gouvernementaux
Canada**

Room 1650, 635 8th Ave. S.W.

Calgary

Alberta

T2P 3M3

Bid Fax: (403) 292-5786

**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 Drive Chiller and Process Heater/Ch	
Solicitation No. - N° de l'invitation W7702-186060/A	Date 2017-12-13
Client Reference No. - N° de référence du client W7702-186060	
GETS Reference No. - N° de référence de SEAG PW-\$CAL-129-6687	
File No. - N° de dossier CAL-7-40091 (129)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2018-01-23	Time Zone Fuseau horaire Mountain Standard Time MST
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: Izzotti, Diana	Buyer Id - Id de l'acheteur cal129
Telephone No. - N° de téléphone (403) 680-6109 ()	FAX No. - N° de FAX (403) 292-5786
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: DEPARTMENT OF NATIONAL DEFENCE; R&D CANADA SUFFIELD BLDG 560 RECEIVING 560 MOUNT SORRELL ROAD RALSTON Alberta TOJ 2N0 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

Public Works and Government Services Canada/Travaux
publics et Services gouvernementaux Canada

Room 1650, 635 8th Ave. S.W.

Calgary

Alberta

T2P 3M3

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

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PART 1 - GENERAL INFORMATION

1.1 Requirement

Defence Research and Development Canada require one (1) new MACHINE DRIVE CHILLER for a RAM5 with accessories and one (1) new PROCESS HEATER/CHILLER for a M40 40 gallon Ross mixer with accessories to be delivered to:

Defence Research and Development Canada – Suffield Research Centre
560 Mount Sorrell Road
Bldg 560 Receiving
Ralston, Alberta, Canada T0J 2N0

All items are detailed in the Mandatory Requirements Table.

Bidders may bid on one (1) item and accessories or on both items and accessories. The optional chilling unit for the Ross M40 mixer is not part of this procurement.

The preferred delivery date is on or before March 28th 2018, but suppliers are able to insert their best delivery date in Section 2.2.1. The delivery date will not be a factor in determining the successful bid.

It is up to suppliers to detail the information on the units they are offering as requested in the Mandatory Specification Table. An incomplete table may render the bid non-compliant.

The complete requirement is detailed under Annex A – Requirement.

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 North American Free Trade Agreement (NAFTA), and the Canadian Free Trade Agreement (CFTA).

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 (2017-04-27) 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:

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Ca1129
CCC No./N° CCC - FMS No./N° VME

Delete: 60 days Insert: 120 days

2.1.1 SACC Manual Clauses

Condition of Material - Bid (2014-06-26) B1000T

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.

2.2.1 Best Delivery Date - Bid

While delivery is requested by March 28th 2018, the best delivery that could be offered is _____.

2.3 Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than 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 Alberta.

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

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

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

C3011T (2013-11-06), Exchange Rate Fluctuation

3.1.3 SACC Manual Clauses

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

4.1.1.1 Mandatory Technical Criteria

The offered units must meet all the mandatory requirements listed in Annex A - Requirement

4.1.2 Financial Evaluation

SACC Manual Clause A0220T (2014-06-26), Evaluation of Price

4.2 Basis of Selection

4.2.1 Basis of Selection - Mandatory Technical Criteria

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

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.

5.1.2 Additional Certifications Required with the Bid

Certifications - Bid (2014-06-26) A3015T

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

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.

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 bidder must provide the items in accordance with 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 (2016-04-04), General Conditions - Goods (Medium Complexity), apply to and form part of the Contract.

6.4 Term of Contract

6.4.1 Period of the Contract

The period of the Contract is from date of contract award to (Date to be determined at contract award) inclusive.

6.4.2 Best Delivery Date

All the deliverables must be received on or before: (Date to be determined at contract award)

6.4.3 Delivery Points

Delivery of the requirement will be made to delivery point(s) specified at Annex "A" of the Contract.

6.5 Authorities

6.5.1 Contracting Authority

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The Contracting Authority for the Contract is:

Name: Diana Izzotti
Title: Procurement Officer
Public Works and Government Services Canada
Acquisitions Branch
Directorate: Western Region
Address: 1650, 635 - 8 Ave SW, Calgary, AB T2P 3M3
Telephone: 403-680-6109
Facsimile: 403-292-5786
E-mail address: diana.izzotti@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 Project Authority

The Project Authority for the Contract is: (To be completed at contract award)

The Project Authority 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 Project Authority, however the Project 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: _____
PBN # _____

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 price as specified in Annex B – Basis of Payment for a cost of \$ (to be inserted 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 Single Payment

H1000C (2008-05-12) Single Payment

6.6.3 SACC Manual Clauses

C2000C (2007-11-30) Taxes - Foreign-based Contractor
D0018C (2007-11-30) Delivery and Unloading

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);

6.6.5 Delivery and Unloading

D0018C (2007-11-30) Delivery and Unloading

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.

Each invoice must be supported by:

- a) a copy of the delivery document and any other documents as specified in the Contract;

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.

And

- b) 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

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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.

6.8.2 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.

6.9 Applicable Laws

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

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 (2016-04-04) General Conditions - Goods (Medium Complexity)
- (c) Annex A, Requirement;
- (d) the Contractor's bid dated _____

6.11 SACC Manual Clauses

A3015C (2014-06-26) Certifications - Contract
A9039C (2008-05-12) Salvage
A9068C (2010-01-11) Government Site Regulations
B1501C (2006-06-16) Electrical Equipment
B7500C (2006-06-16) Excess Goods

ANNEX "A" - REQUIREMENT

Defence Research and Development Canada require one (1) new MACHINE DRIVE CHILLER for a RAM5 with accessories and one (1) new PROCESS HEATER/ CHILLER for a M40 40 gallon Ross mixer with accessories to be delivered to:

Defence Research and Development Canada – Suffield Research Centre
560 Mount Sorrell Road, Bldg 560 Receiving, Ralston, Alberta, Canada T0J 2N0

All items are detailed in the Mandatory Requirements Table.

Bidders may bid on either item 1 or 2 and accessories or on both items and accessories.

The preferred delivery date is on or before March 28th 2018, but suppliers are able to insert their best delivery date in Section 2.2.1. The delivery date will not be a factor in determining the successful bid.

COMPLIANCE MATRIX – MINIMUM MANDATORY PERFORMANCE SPECIFICATIONS

A complete list of the minimum mandatory performance specifications are detailed below in the "Compliance Matrix - Mandatory Requirements Table". Bidders are to clearly demonstrate compliance with each mandatory specification.

1. Bidders **must** show compliance by addressing each performance specification in the Compliance Matrix, whether the product offered "meets – Yes or No".
2. Bidders are requested to indicate how they meet each performance specification by recording this information under the Supporting details column in the Compliance Matrix.
3. It is requested that supporting technical documentation, including but not limited to, specification sheets, technical brochures, photographs or illustrations be provided with the bid at solicitation close and be cross-referenced on the Compliance Matrix for each performance specification to outline where in the supporting technical documentation it demonstrates compliance. It is the Bidders responsibility to ensure that the submitted supporting technical documentation provides detail to prove that the proposed product(s) meet the requirements of the Performance Specification. If published supporting technical document is not available, the Bidder should prepare a written narrative complete with a detailed explanation of how its bid demonstrates technical compliance.
4. If the supporting documentation referenced above has not been provided at bid closing, the Contracting Authority will notify the Bidder that they must provide supporting documentation within two (2) business days following notification. Failure to comply with the request of the Contracting Authority within that time period, will deem the bid non-responsive and the bid will be given no further consideration.
5. Bidders must address any concerns with the performance specifications in written detail to the Contracting Authority before bid closing as outlined in the Request for Proposal (RFP) document.
6. Failure to meet each mandatory performance specification will result in the bid being deemed non-responsive, and be given no further consideration.

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COMPLIANCE MATRIX – MINIMUM MANDATORY PERFORMANCE SPECIFICATIONS:

The offered units must meet all of the following criteria, and bidders will reference where in their bid the supporting documentation can be found.

ITEM 1 - MACHINE DRIVE CHILLER FOR RAM 5:

Requirement	Manufacturer Offered:	Model number Offered#
MACHINE DRIVE CHILLER FOR RAM 5:		

Item # 1	Performance Specification	Status (M) Mandatory (D) Desirable*	Performance Specification Met? Indicate either Yes/No	Performance Specification Offered: Bidder <u>must</u> indicate how they meet the performance specification by recording this information in this column	Cross Reference: In this column, Bidders should cross-reference where this performance specification is indicated in their supporting documents.
1.1	<p>Ambient Operating conditions= Drive chiller must be capable of operating in the following conditions</p> <p>Operational Temperature Range: -4 Degrees F [-20 Degrees C] to +104 Degrees F [+ 40 Degrees C]</p> <p>Note: Non-operational temperature to -40 Degrees F [-40 Degrees C Altitude: 2400 Ft MSL [740 M MSL]</p> <p>Humidity Range: Dry (dew point <55 Degrees F)</p> <p>Exposure: Prairie Flat – Limited wind shadowing by small relocatable building</p>	M			
1.2	Process Heat Transfer Fluid =	M			

Item # 1	Performance Specification	Status (M) Mandatory (D) Desirable*	Performance Specification Met? Indicate either Yes/No	Performance Specification Offered: Bidder <u>must</u> indicate how they meet the performance specification by recording this information in this column	Cross Reference: In this column, Bidders should cross-reference where this performance specification is indicated in their supporting documents.
	Must be capable of using water Ethylene Glycol Mix (60% Water/40 % Ethylene Glycol (weight %))				
1.3	Rated Heat Removal = Must be no less than 36,000 BTU/H (3 Tons)	M			
1.4	Process Fluid Delivery Temperature = Process fluid delivery temperature must be as follows: <ul style="list-style-type: none"> (Target) 50 Degree F [10 Degrees C] Resettable 20 to 65 Degrees F [-7 to +18 Degrees C]	M			
1.5	Process Fluid Flow Rate = Must be no less than 10 GPM [38 L/min.]	M			
1.6	Process Fluid Pressure = Must be no less than 450 psi [3,102kPa]	M			
1.7	Compressor Type = Must be Hermetically Sealed Scroll – Air Cooled	M			
1.8	Refrigerant Type = Must meet current Canadian regulations	M			
1.9	Capacity Control = Must be either: 1) Hot Gas Bypass – variable flow to provide 25% rated capacity (4:1 turndown); or,	M			

Item # 1	Performance Specification	Status (M) Mandatory (D) Desirable*	Performance Specification Met? Indicate either Yes/No	Performance Specification Offered: Bidder <u>must</u> indicate how they meet the performance specification by recording this information in this column	Cross Reference: In this column, Bidders should cross-reference where this performance specification is indicated in their supporting documents.
	2) variable speed compressor drive.				
1.10	Refrigerant Condensor = Must be externally mounted and air cooled fin and tube condensor c/w electric fan and wind screening as required (fan may be variable speed controlled for pressure control). Low ambient operation.	M			
1.11	Primary Heat Exchanger (evaporator) = Must be either Tube & Shell or Brazed Flat Plate – Refrigerant to Glycol Mixture.	M			
1.12	Voltage requirements must be as follows: Primary - 208 VAC, 3 Phase, 60 Hz. / Control Secondary – 120 VAC, 1 Phase, 60 Hz. that may be separately supplied by Purchaser's uninterruptible power supply.	M			
1.13	Interlocks must include: <ul style="list-style-type: none"> • Process fluid flow switch; • low process fluid level; • low ambient temperature. 	M			

Item # 1	Performance Specification	Status (M) Mandatory (D) Desirable*	Performance Specification Met? Indicate either Yes/No	Performance Specification Offered: Bidder <u>must</u> indicate how they meet the performance specification by recording this information in this column	Cross Reference: In this column, Bidders should cross-reference where this performance specification is indicated in their supporting documents.
1.14	Temperature controller type must be a digital, adaptive PID, with adjustable setpoint – displays setpoint temperature and process fluid temperature simultaneously, retransmits via remote communication (see below).	M			
1.15	Local (Panel) Controls = Panel controls must include the following: ON/OFF momentary switch; ESD detented push button (breaks control power inhibiting remote or local START); process fluid pump ON/OFF momentary switch; cooling ON/OFF momentary switch; o pilot lamp indication of ON, for the following: process fluid flow fail, process fluid low level condition, low ambient temperature lockout, cooling ON, process fluid pump ON.	M			
1.16	Remote Communication: Must communicate via Ethernet protocol	M			

Item # 1	Performance Specification	Status (M) Mandatory (D) Desirable*	Performance Specification Met? Indicate either Yes/No	Performance Specification Offered: Bidder <u>must</u> indicate how they meet the performance specification by recording this information in this column	Cross Reference: In this column, Bidders should cross-reference where this performance specification is indicated in their supporting documents.
	(TCP/IP) with remote software being non-proprietary.				
1.17	Remote control access must include the following: Control ON/OFF; process pump ON/OFF; cooling ON/OFF; status indication of ON/OFF, process fluid flow failure, low process fluid level, process pump ON, cooling ON; control of process fluid temperature set point, indication of process fluid temperature.	M			
1.18	Must include the following electrical disconnections: Must have a primary electrical power disconnect on cabinet face. Must have interlock switch on access door that inhibits the operation of primary electrical contactors (compressor and process fluid pump) if door opened.	M			
1.19	Electrical Standards = Electrical wiring must meet CSA or equivalent standards. Equipment must bear registered label.	M			
1.20	Cabinet Enclosure= Cabinet that is intended for internal location	M			

Item # 1	Performance Specification	Status (M) Mandatory (D) Desirable*	Performance Specification Met? Indicate either Yes/No	Performance Specification Offered: Bidder <u>must</u> indicate how they meet the performance specification by recording this information in this column	Cross Reference: In this column, Bidders should cross-reference where this performance specification is indicated in their supporting documents.
	must be powder coated steel; cabinet that is intended for external location must be of galvanized steel construction and may be powder coated or natural galvanized.				
1.21	Process Materials = Non-ferrous in contact with process fluid or refrigerant.	M			
1.22	Maximum Internal Footprint = Must be no more than 60" L x 36" W x 48" H (1524 mm L x 914 mm W x 1219 mm H) with service connections at rear or to side.	M			
1.23	Testing = The vendor must test the unit to full capacity prior to shipment and provide documented proof of testing and performance. Documents will be provided with delivery of unit.	M			

Accessories for the Machine Drive Chiller Accessories

The Contractor must provide the following accessories for the Machine Drive Chiller:

Item #	Performance Specification	Status (M) Mandatory (D) Desirable	Performance Specification Met? Indicate either Yes or No	Performance Specification Offered: Bidder <u>must</u> indicate how they meet the performance specification by recording this information in this column	Cross Reference: In this column, Bidders should cross-reference where this performance specification is indicated in their supporting documents.
1.24	1 Water/Glycol Reservoir = Water glycol reservoir must be at least 15 US Gal. (57 L) insulated HDPE tank with visual level indication window.	M			
1.25	1 Bypass = Must include globe valve bypass to manually control amount of fluid circulated to process.	M			
1.26	1 Process Fluid Drain: Must provide valve at lowest possible point of unit to attach threaded (hose bib) hose for process fluid draining.	M			
1.27	1 Process Fluid Drain Back: Since the piping loop from the heater to process will be elevated above chiller (approx. 9 Ft (2,743 mm)), there must be provided valving to prevent drain back/overflow of an open/non-pressurized reservoir.	M			

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Item #	Performance Specification	Status (M) Mandatory (D) Desirable	Performance Specification Met? Indicate either Yes or No	Performance Specification Offered: Bidder <u>must</u> indicate how they meet the performance specification by recording this information in this column	Cross Reference: In this column, Bidders should cross-reference where this performance specification is indicated in their supporting documents.
1.28	1 Additional Control = Must provide analog (dial type) pressure gauge indicating process fluid suction and discharge pressure (across circulation pump) that is must be observable from cabinet face (does not require opening a panel).	M			

ITEM 2; PROCESS HEATER (CHILLER) FOR DPM40 MIXER:

The deliverable is one process heating unit for a DPM40 mixer capable of supporting the addition of an optional add-on chilling unit as per the minimum requirements below. The optional chilling unit is not part of this procurement.

Requirement	Manufacturer Offered:	Model number Offered#
PROCESS HEATER (CHILLER) FOR DPM40 MIXER		

Item #	Performance Specification	Status (M) Mandatory (D) Desirable	Performance Specification Met? Indicate either Yes or No	Performance Specification Offered: Bidder <u>must</u> indicate how they meet the performance specification by recording this information in this column	Cross Reference: In this column, Bidders should cross-reference where this performance specification is indicated in their supporting documents.
2.1	<p>Ambient Operating conditions = Process heater/chiller must be capable of operating in the following conditions</p> <p>Operational Temperature Range: -4 Degrees F [-20 Degrees C] to +104 Degrees F [+ 40 Degrees C]</p> <p>Note: Non-operational temperature to -40 Degrees F [-40 Degrees C]</p> <p>Altitude: 2400 Ft MSL [740 M MSL]</p> <p>Humidity Range: Dry (dew point <55 Degrees F)</p> <p>Exposure: Prairie Flat – Limited wind shadowing by small relocatable building structures.</p>	M			

Item #	Performance Specification	Status (M) Mandatory (D) Desirable	Performance Specification Met? Indicate either Yes or No	Performance Specification Offered: Bidder <u>must</u> indicate how they meet the performance specification by recording this information in this column	Cross Reference: In this column, Bidders should cross-reference where this performance specification is indicated in their supporting documents.
2.2	Process Heat Transfer Fluid = Must be capable of using water Ethylene Glycol Mix (60% Water/40 % Ethylene Glycol (weight %))	M			
2.3	Rated Heat Addition= Must be no less than 18,000 Watts [61.4 kBTU/H]	M			
2.4	Optional Chilling Unit = Must be capable of supporting an optional chilling unit with 120,000BTU/H [10 Ton] capacity. The optional chilling unit is not part of this procurement.	M			
2.5	Process Fluid Delivery Temperature:= Process heating fluid delivery must be capable of providing heated fluid of at least 205 Degree F [96 Degree C]	M			

Item #	Performance Specification	Status (M) Mandatory (D) Desirable	Performance Specification Met? Indicate either Yes or No	Performance Specification Offered: Bidder <u>must</u> indicate how they meet the performance specification by recording this information in this column	Cross Reference: In this column, Bidders should cross-reference where this performance specification is indicated in their supporting documents.
2.6	Process Fluid Delivery Temperature (With optional chiller connected) must be as follows: <ul style="list-style-type: none"> • Cooling (Target) 50 Degree F [10 Degrees C] • Resettable 20 to 65 Degrees F [-7 to +18 Degrees C] 	M			
2.7	Process Fluid Flow Rate = Must be no less than 40 GPM [151 L/min.]	M			
2.8	Process Fluid Pressure= Must provide fluid pressure of min 40 PSIG [275 kPa] – max 60 PSIG [415 kPa]	M			

Item #	Performance Specification	Status (M) Mandatory (D) Desirable	Performance Specification Met? Indicate either Yes or No	Performance Specification Offered: Bidder <u>must</u> indicate how they meet the performance specification by recording this information in this column	Cross Reference: In this column, Bidders should cross-reference where this performance specification is indicated in their supporting documents.
2.9	Heating Section = Must be stainless steel housing with multiple heating elements in a horizontal configuration and minimum fluid volume to increase fluid velocity. Heating elements must be Incoloy sheathed. All other wetted parts must be non-ferrous copper, brass, or stainless steel. All process lines and heater housing must be externally insulated to reduce heat loss.	M			
2.10	Included Heater Section Safety Devices = Must include pressure relief valve and heater energization, which must be interlocked with a high limit aquastat, a low water cutout, and a flow switch interlock. There must be a time delay on the circulation pump turning OFF after the heater is switched OFF (to cool down heating elements and remove residual heat).	M			

Item #	Performance Specification	Status (M) Mandatory (D) Desirable	Performance Specification Met? Indicate either Yes or No	Performance Specification Offered: Bidder <u>must</u> indicate how they meet the performance specification by recording this information in this column	Cross Reference: In this column, Bidders should cross-reference where this performance specification is indicated in their supporting documents.
2.11	Circulation Pump = Must have a stainless steel pump housing, impeller, and shaft with silicon-carbide seals.	M			
2.12	Secondary Heat Exchanger = Must be a Brazed Flat Plate type – Chilled Glycol to Circulated Process Glycol Mixture.	M			
2.13	Voltage = Voltage requirements must be: Primary - 208 VAC, 3 Phase, 60 Hz. / Control Secondary – 120 VAC, 1 Phase, 60 Hz. that may be separately supplied by Purchaser's uninterruptible power supply.	M			

Item #	Performance Specification	Status (M) Mandatory (D) Desirable	Performance Specification Met? Indicate either Yes or No	Performance Specification Offered: Bidder <u>must</u> indicate how they meet the performance specification by recording this information in this column	Cross Reference: In this column, Bidders should cross-reference where this performance specification is indicated in their supporting documents.
2.14	Interlocks must include: <ul style="list-style-type: none"> • process fluid flow switch; • low process fluid level (manual reset); • high process fluid temperature (manual reset); electrical heaters to be interlocked with process pump operation (no circulation, no heat)	M			
2.15	Temperature controller type must be a digital, adaptive PID, with adjustable setpoint – displays setpoint temperature and process fluid temperature simultaneously, retransmits via remote communication (see below).	M			
2.16	Heater Control = Zero crossing fired, burst mode, sub-second, SCR controlled. Must include series (in-line) contactor as part of safety circuit.	M			

Item #	Performance Specification	Status (M) Mandatory (D) Desirable	Performance Specification Met? Indicate either Yes or No	Performance Specification Offered: Bidder <u>must</u> indicate how they meet the performance specification by recording this information in this column	Cross Reference: In this column, Bidders should cross-reference where this performance specification is indicated in their supporting documents.
2.17	Local (Panel) Controls: Panel controls must include the following: <ul style="list-style-type: none"> • ON/OFF switch; • ESD detented push button (breaks control power inhibiting remote or local START); • circulation pump ON/OFF momentary; • heating control ON/OFF momentary; • pilot lamp indication of ON, • process fluid flow fail, • process fluid low level condition, • process fluid high temperature, • process fluid pump ON, • heating control ON. 	M			
2.18	Remote Communication = Must communicate via Ethernet protocol (TCP/IP). Remote software must be non-proprietary.	M			

Item #	Performance Specification	Status (M) Mandatory (D) Desirable	Performance Specification Met? Indicate either Yes or No	Performance Specification Offered: Bidder <u>must</u> indicate how they meet the performance specification by recording this information in this column	Cross Reference: In this column, Bidders should cross-reference where this performance specification is indicated in their supporting documents.
2.19	Remote control access must include the following: <ul style="list-style-type: none"> • Control ON/OFF; • control of process pump ON/OFF; • control of heating power ON/OFF; • status indication of – <ul style="list-style-type: none"> ○ power ON, ○ process pump ON, ○ heating ON, ○ process fluid flow failure, ○ low process fluid level, ○ process fluid high temperature; • control of process fluid temperature set point, • indication of process fluid temperature. 	M			

Item #	Performance Specification	Status (M) Mandatory (D) Desirable	Performance Specification Met? Indicate either Yes or No	Performance Specification Offered: Bidder <u>must</u> indicate how they meet the performance specification by recording this information in this column	Cross Reference: In this column, Bidders should cross-reference where this performance specification is indicated in their supporting documents.
2.20	Electrical Disconnect = Must include a primary electrical power disconnect on cabinet face. Access door must be provided with interlock switch to inhibit operation of primary electrical contactors (heater and process fluid pump).	M			
2.21	Electrical Standards= Electrical wiring must meet CSA or equivalent standards. Equipment must bear registered label.	M			
2.22	Cabinet Enclosure = Cabinet that is intended for internal location must be epoxy powder coated steel; cabinet that is intended for external location must be of galvanized steel construction and may be epoxy powder coated or natural galvanized.	M			
2.23	Process Materials = Must be non-ferrous in contact with process fluid.	M			

Item #	Performance Specification	Status (M) Mandatory (D) Desirable	Performance Specification Met? Indicate either Yes or No	Performance Specification Offered: Bidder <u>must</u> indicate how they meet the performance specification by recording this information in this column	Cross Reference: In this column, Bidders should cross-reference where this performance specification is indicated in their supporting documents.
2.24	Maximum Internal Footprint: Must be no more than 60" L x 36" W x 36" H (1524 mm L x 914 mm W x 914 mm H) with service connections at rear or to side.	M			
2.25	Testing: The vendor must test the unit to full capacity prior to shipment and provide documented proof of testing and performance.	M			

Process Heater Unit Accessories

The Contractor must provide the following accessories for the Process Heater:

Item #	Performance Specification	Status (M) Mandatory (D) Desirable	Performance Specification Met? Indicate either Yes or No	Performance Specification Offered: Bidder <u>must</u> indicate how they meet the performance specification by recording this information in this column	Cross Reference: In this column, Bidders should cross-reference where this performance specification is indicated in their supporting documents.
2.26	1 Process Fluid Pressure Control= Must include diaphragm tank for process fluid expansion. Calculation must be based on a process fluid volume beyond the heater/circulation unit of 30 USG and a temperature range of 20 to 205 Degree F. The diaphragm tank may be mounted externally to the heater/circulator unit. Note: process fluid system to be pressurized during manual fill. Manufacturer to specify recommended cold fluid pressure.	M			
2.27	1 Process Fluid Air Purge = Package must include an "air scoop" or other automatic means of eliminating entrained air from the process fluid.	M			
2.28	1 Bypass= Must include globe valve bypass to manually control amount of fluid circulated to process.	M			

Item #	Performance Specification	Status (M) Mandatory (D) Desirable	Performance Specification Met? Indicate either Yes or No	Performance Specification Offered: Bidder must indicate how they meet the performance specification by recording this information in this column	Cross Reference: In this column, Bidders should cross-reference where this performance specification is indicated in their supporting documents.
2.29	1 Process Fluid Drain Back = Since the piping loop from the heater to process will be elevated above chiller (approx. 9 Ft (2,743 mm), there must be provided valving to prevent drain back/overflow of an open/non-pressurized reservoir.	M			
2.30	1 Process Fluid Drain = Must provide valve at lowest possible point of unit to attach threaded (hose bib) hose for process fluid draining.	M			
2.31	1 Additional Control = Must provide analog (dial type) pressure gauge indicating process fluid suction and discharge pressure (across circulation pump) that is must be observable from cabinet face (does not require opening a panel).	M			

ANNEX “B” – BASIS OF PAYMENT

The supplier shall provide the items as detailed in Annex A and under the Terms and Conditions agreed to in the Contract.

Suppliers may bid on Item 1 or Item 2 or both items; including the accessories.
One or more contracts may be issued as a result of this Request For Proposals.

Suppliers must quote firm Unit prices in Canadian dollars, F.O.B. destination unloaded, including all shipping and delivery costs to Defence Research and Development Canada – Suffield Research Centre Building 560 Ralston, AB T0J 2N0 Canada for each item listed herein.

All surcharges (including environmental and recycling surcharges, document fees etc.) must be included in the prices quoted herein.

All prices are firm and are exclusive of GST.
GST is to be added as a separate item on any invoice.

Changes to the Basis of Payment are not permitted.

Any item that is unavailable shall be marked N/A by the bidder.
Any item with no cost shall be marked 'zero' by the bidder.

Item	Description of the Deliverables	Product Specification Reference Number	Quantity	Price (Canadian \$)
1	Machine Drive Chiller for RAM5		1	\$ _____
	Accessories for Item 1			
1.24	Water/Glycol Reservoir		1	\$ _____
1.25	Bypass		1	\$ _____
1.26	Process Fluid Drain		1	\$ _____
1.27	Process Fluid Drain Back		1	\$ _____
1.28	Additional Controls		1	\$ _____
	Delivery			\$ _____
			TOTAL	\$ _____
Item	Description of the Deliverables	Product Specification Reference Number	Quantity	Price (Canadian \$)
2	Process Heater Unit For DPM40 40 gallon Ross mixer		1	\$ _____
	Accessories for Item 2			
2.26	Process Fluid Pressure Control		1	\$ _____
2.27	Process Fluid Air Purge		1	\$ _____
2.28	Bypass		1	\$ _____

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2.29	Process Fluid Drain Back		1	\$ _____
2.30	Process Fluid		1	\$ _____
2.31	Additional Controls		1	\$ _____
	Delivery			\$ _____
			TOTAL	\$ _____

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ANNEX "C" to PART 3 OF THE BID SOLICITATION

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);