



**RETURN BIDS TO:**

**RETOURNER LES SOUMISSIONS À:**

Travaux publics et Services gouvernementaux  
Canada

Voir dans le document/  
See herein

NA

Québec

NA

**REQUEST FOR PROPOSAL  
DEMANDE DE PROPOSITION**

**Proposal To: Public Works and Government  
Services Canada**

We hereby offer to sell to Her Majesty the Queen in right of Canada, in accordance with the terms and conditions set out herein, referred to herein or attached hereto, the goods, services, and construction listed herein and on any attached sheets at the price(s) set out therefor.

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

Nous offrons par la présente de vendre à Sa Majesté la Reine du chef du Canada, aux conditions énoncées ou incluses par référence dans la présente et aux annexes ci-jointes, les biens, services et construction énumérés ici sur toute feuille ci-annexée, au(x) prix indiqué(s).

**Comments - Commentaires**

<b>Title - Sujet</b> Composite stamping Mould	
<b>Solicitation No. - N° de l'invitation</b> 31026-200984/A	<b>Date</b> 2020-07-14
<b>Client Reference No. - N° de référence du client</b> 31026-200984	
<b>GETS Reference No. - N° de référence de SEAG</b> PW-\$MTA-170-15794	
<b>File No. - N° de dossier</b> MTA-0-43042 (170)	<b>CCC No./N° CCC - FMS No./N° VME</b>
<b>Solicitation Closes - L'invitation prend fin</b> <b>at - à 02:00 PM</b> <b>on - le 2020-08-24</b>	<b>Time Zone</b> <b>Fuseau horaire</b> Heure Avancée de l'Est HAE
<b>F.O.B. - F.A.B.</b> Specified Herein - Précisé dans les présentes <b>Plant-Usine:</b> <input type="checkbox"/> <b>Destination:</b> <input type="checkbox"/> <b>Other-Autre:</b> <input checked="" type="checkbox"/>	
<b>Address Enquiries to: - Adresser toutes questions à:</b> Cimpan, Cristina	<b>Buyer Id - Id de l'acheteur</b> mta170
<b>Telephone No. - N° de téléphone</b> (514) 604-3855 ( )	<b>FAX No. - N° de FAX</b> (514) 496-3822
<b>Destination - of Goods, Services, and Construction:</b> <b>Destination - des biens, services et construction:</b> CONSEIL NATIONAL DE RECHERCHES DU CANADA 75 BOUL.DE MORTAGNE VIA LAUZON A/S Comptes Payables BOUCHERVILLE Québec J4B6Y4 Canada	

**Instructions: See Herein**

**Instructions: Voir aux présentes**

**Vendor/Firm Name and Address**

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

**Issuing Office - Bureau de distribution**

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

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

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## **PART 1 - GENERAL INFORMATION**

### **1.1 Security Requirements**

There is no security requirement applicable to this document.

### **1.2 Requirement**

The requirement is detailed under Annex "A" - Requirement.

### **1.3 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.

### **1.4 epost Connect service**

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) (<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](#) (2020-05-28) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

#### **2.1.1 SACC Manual Clauses**

[B1000T](#) (2014-06-26), Condition of Material – Bid.

#### **2.1.2 Best Delivery Date – Bid** *(to be filled by the bidder)*

While delivery is requested as soon as possible, the best delivery that could be offered is \_\_\_\_\_ weeks after contract award.

## 2.2 Submission of Bids

Bids must be submitted only to the Public Works and Government Services Canada (PWGSC) Bid Receiving Unit specified below by the date and time indicated on page 1 of the bid solicitation:

### PWGSC Québec Region Bid Receiving Unit

**Only bids submitted using epost Connect service will be accepted. The Bidder must send an email requesting to open an epost Connect conversation to the following address:**

[TPSGC.RQReceptionSoumissions-QRSupplyTendersReception.PWGSC@tpsgc-pwgsc.gc.ca](mailto:TPSGC.RQReceptionSoumissions-QRSupplyTendersReception.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.

It is the Bidder's responsibility to ensure the request for opening an epost Connect conversation is sent to the email address above at least six days before the solicitation closing date.

**Bids transmitted by facsimile or hardcopy to PWGSC will not be accepted.**

## 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 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 Québec.

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 Bid Challenge and Recourse Mechanisms

- (a) Several mechanisms are available to potential suppliers to challenge aspects of the procurement process up to and including contract award.
- (b) Canada encourages suppliers to first bring their concerns to the attention of the Contracting Authority. Canada's [Buy and Sell](#) website, under the heading "[Bid Challenge and Recourse Mechanisms](#)" contains information on potential complaint bodies such as:

- 
- Office of the Procurement Ombudsman (OPO)
  - Canadian International Trade Tribunal (CITT)

(c) Suppliers should note that there are **strict deadlines** for filing complaints, and the time periods vary depending on the complaint body in question. Suppliers should therefore act quickly when they want to challenge any aspect of the procurement process.

## **PART 3 - BID PREPARATION INSTRUCTIONS**

### **3.1 Bid Preparation Instructions**

**The Bidder must submit its bid electronically** 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

Bids transmitted by facsimile or hardcopy will not be accepted.

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

#### **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 "E" Electronic Payment Instruments, to identify which ones are accepted.

If Annex "E" 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 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 technical evaluation will be based on the mandatory technical criteria to be demonstrated detailed in the Annex C. Every proposal must meet all the mandatory technical criteria described in Annex C in order to be technically compliant.

It is mandatory to provide, with your bid, all technical / descriptive documents that allow the technical evaluation. Failure to comply will render your bid non-responsive.

Bidders must complete the grid in Annex C and include it with their proposal.

#### **4.1.2 Financial Evaluation**

According to the grand total of the items 1, 2, 3, 4, 5, 6, 7 and 8 indicated in Annex B - Basis of Payment.

##### **4.1.2.1 Evaluation of Price - Canadian/Foreign Bidder**

1. Bidders must submit firm prices, customs duties and excise taxes included and Applicable Taxes excluded.
2. Unless the bid solicitation specifically requires bids to be submitted in Canadian currency, bids submitted in foreign currency will be converted to Canadian currency for evaluation purposes. The rate given by the Bank of Canada in effect on the bid solicitation closing date, or on another date specified in the bid solicitation, will be applied as a conversion factor to the bids submitted in foreign currency.
3. Bidders must provide prices Delivered at Place (DAP) Boucherville, Quebec, Canada Incoterms 2010 for shipments from a commercial contractor. Bids will be assessed on DAP basis.

### **4.2 Basis of Selection**

#### **4.2.1 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.

## **5.2 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** *(see Annex F)*

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/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](https://www.canada.ca/en/employment-social-development/programs/employment-equity/federal-contractor-program.html#) website (<https://www.canada.ca/en/employment-social-development/programs/employment-equity/federal-contractor-program.html#>).

Canada will have the right to declare a bid non-responsive if the Bidder, or any member of the Bidder if the Bidder is a Joint Venture, appears on the "FCP Limited Eligibility to Bid" list at the time of contract award.

### **5.2.3 Additional Certifications Precedent to Contract Award**

#### **5.2.3.1 Certification ISO 9001**

Bidders must submit their ISO 9001 certification before contract award.

## PART 6 - RESULTING CONTRACT CLAUSES

The following clauses and conditions apply to and form part of any contract resulting from the bid solicitation.

### 6.1 Security Requirements

6.1.1 There is no security requirement applicable to the Contract.

### 6.2 Requirement

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

### 6.3 Standard Clauses and Conditions

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

#### 6.3.1 General Conditions

[2010A](#) (2020-05-28), 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 the date of Contract to June 30, 2021, inclusive.

#### 6.4.2 Delivery Date

All the deliverables must be received on or before \_\_\_\_\_ *(the date will be filled at the 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

The Contracting Authority for the Contract is:

Name: Cristina Cimpan  
Title: Acting Procurement Agent  
Public Works and Government Services Canada  
Acquisitions Branch Directorate Supply  
Telephone: 514-604-3855  
E-mail address: [cristina.cimpan@tpsgc-pwgsc.gc.ca](mailto:cristina.cimpan@tpsgc-pwgsc.gc.ca)

Solicitation No. - N° de l'invitation  
31026-200984/A  
Client Ref. No. - N° de réf. du client  
31026-200984

Amd. No. - N° de la modif.  
File No. - N° du dossier  
MTA-0-43042

Buyer ID - Id de l'acheteur  
MTA170  
CCC No./N° CCC - FMS No./N° VME

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 *(to be completed by Canada at contract award)*

The Project Authority for the Contract is:

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

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 *(to be filled by the bidder)*

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

## 6.6 Payment

### 6.6.1 Basis of Payment - Firm Price, Firm Unit Price(s) or Firm Lot Price(s)

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid firm unit prices, as specified in Annex B for a cost of \$ \_\_\_\_\_ *(will be indicated at the 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 Multiple Payments

SACC Manual Clauses H1001C (2008-05-12), Multiple Payments

### 6.6.3 SACC Manual Clauses

C2000C (2007-11-30), Taxes - Foreign-based Contractor

### 6.6.4 Electronic Payment of Invoices – Contract *(Annex E)*

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).

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

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 *(to be filled by the bidder)*

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

### 6.10 Priority of Documents

If there is a discrepancy between the wording of any documents that appear on the list, the wording of the document that first appears on the list has priority over the wording of any document that subsequently appears on the list.

- (a) the Articles of Agreement;
- (b) the general conditions [2010A](#) (2020-05-28), General Conditions - Goods (Medium Complexity);
- (c) Annex A, Requirement;
- (d) Annex B, Basis of payment;
- (e) the Contractor's bid dated \_\_\_\_\_ *(insert date of bid)* *(If the bid was clarified or amended, insert at the time of contract award: “, as clarified on \_\_\_\_\_” or “, as amended on \_\_\_\_\_” and insert date(s) of clarification(s) or amendment(s))*

### 6.11 SACC Manual Clauses

[A2000C](#) (2006-06-16), Foreign Nationals (Canadian Contractor)  
[A2001C](#) (2006-06-16), Foreign Nationals (Foreign Contractor)  
[A9068C](#) (2010-01-11), Government Site Regulations  
[B1501C](#) (2018-06-21), Electrical equipment  
[D0018C](#) (2007-11-30), Delivery and Unloading  
[G1005C](#) (2016-01-28), Insurance - No Specific Requirement

## 6.12 Inspection and Acceptance

The Project 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.

## 6.13 Dispute Resolution

- (a) The parties agree to maintain open and honest communication about the Work throughout and after the performance of the contract.
- (b) The parties agree to consult and co-operate with each other in the furtherance of the contract and promptly notify the other party or parties and attempt to resolve problems or differences that may arise.
- (c) If the parties cannot resolve a dispute through consultation and cooperation, the parties agree to consult a neutral third party offering alternative dispute resolution services to attempt to address the dispute.
- (d) Options of alternative dispute resolution services can be found on Canada's Buy and Sell website under the heading "[Dispute Resolution](#)".

## **ANNEX "A"**

### **REQUIREMENT**

#### **1.0 Object**

The National Research Council of Canada (NRC), Boucherville site, is seeking to acquire a mould to manufacture carbon fibre and glass fibre reinforced thermoplastic polymer composite demonstrators using the composite stamping process. This mould must be specifically manufactured for the composite stamping process.

The scope of work includes the supply, factory acceptance test and delivery of the mould.

#### **2.0 Constraints :**

The mould must respect the dimensions highlighted in section 3.0 and specified in the 2D design included in the Annex D.

#### **3.0 Technical Mandatory Specifications**

##### **3.1 The Contractor must:**

- 3.1.1** Provide a list of a minimum of two (2) projects within the last 10 years where the contractor has manufactured compression moulds or stamping moulds.
- 3.1.2** Provide reference(s) for each project mentioned on the list from section 3.1.1. The Contractor must, at a minimum, provide the name and either the telephone number or e-mail address for a contact person. If only the telephone number is provided, it will be used to call to request the e-mail address and the reference check will be done by e-mail.
- 3.1.3** Be ISO 9001 certified.

**3.2** The Contractor must assign a Project Manager as a single point of contact for all matters related to the project. Within five (5) working days of contract award, the Contractor must provide the contact information of the Project Manager to the NRC Project Authority.

**3.3** The Contractor must provide NRC with a detailed project schedule that must include all of the deliverables and project milestones identified in the section 4.0, within seven (7) working days of contract award.

The Contractor project schedule must respect the following key milestones:

- 3.3.1** Mould manufacturing : maximum seven (7) weeks after contract award
- 3.3.2** Factory Acceptance Tests (FAT) : maximum one (1) week after previous milestone

**3.4** Weekly progress review meeting will be scheduled by CNRC with the contractor project manager following attribution of the contract.

**3.5** The mould must be compatible with the composite stamping process:

- 3.5.1** In the composite stamping process, a continuous fiber thermoplastic composite laminate is first loaded in a holding frame. The material held by the frame is then transferred in an external oven where it is heated above the softening temperature of the thermoplastic matrix before being rapidly transferred to a press where it is stamped. The thermoplastic composite

laminates are then cooled under pressure in the tool until the material has solidified. In order to avoid excessive cooling speed, the tool is kept at a constant temperature ranging between 60°C and 100°C throughout the entire moulding process. A schematic representation of the process is shown in Figure 1.

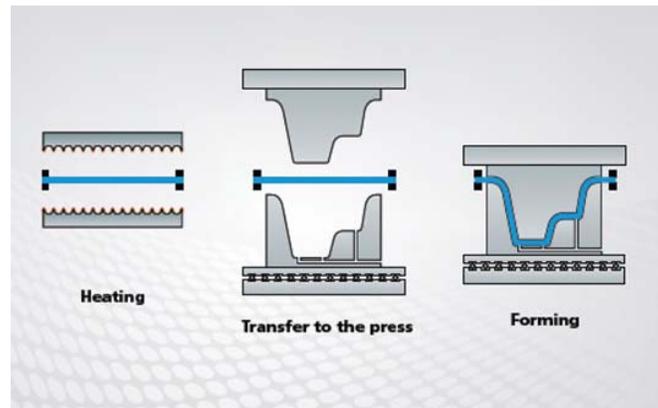


Figure 1: Schematic representation of the composite stamping process

**3.6** The mould must consist of two matched dies (See figure 2). The 2D design of the mould at Annex D take precedence over the dimensions below:

- 3.6.1** Approximate length : 1.02 m
- 3.6.2** Approximate width : 0.64 m
- 3.6.3** Approximate height : 0.33 m

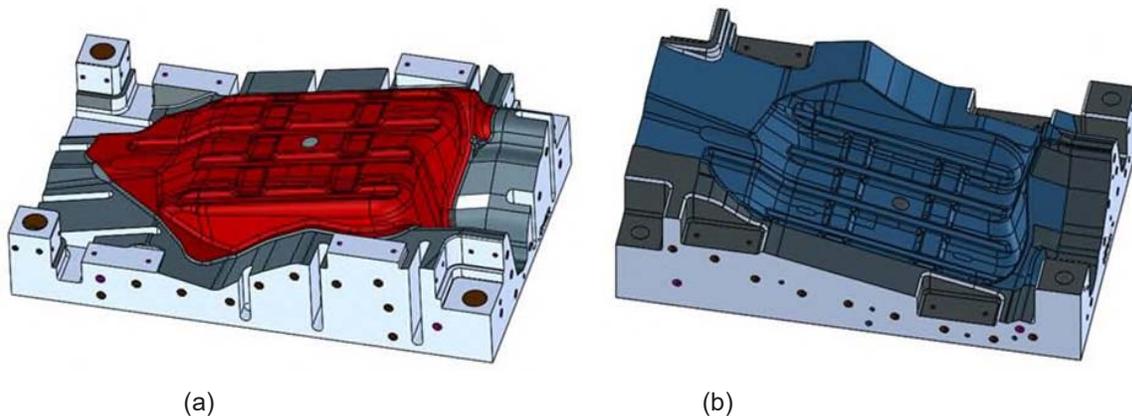


Figure 2: (a) Lower half die and (b) Upper half die

**3.7** The composite part will be moulded with the following materials:

**3.7.1** Resins: polypropylene, polyamide 6 and polyamide 66

**3.7.2** Reinforcements: glass fibre and carbon fibre

The contractor must provide the stamping mould that meets all of the following technical specifications.

**3.8** The mould must withstand a minimum clamping force of 1000 tons.

**3.9** The mould must be fabricated in mould steel.

**3.10** A guidance system must ensure the perfect alignment of both halves of the mould when the mould closes.

**3.11** The two parts of the mould must have insulation plates to minimize heat losses between the mould and the press platens.

**3.12** The mould must have a functional demolding system.

**3.13** The mould must have the following tolerances and surface finish:

**3.13.1** Tolerance on moulded surfaces:  $\pm 0.3$  mm.

**3.13.2** Tolerance on the "end of part" line:  $\pm 0.1$  mm.

**3.13.3** Surface finish of all moulding surfaces: polished, Grit 320 or better

**3.14** The mould must have fixing plates to secure the mould to the press, as shown in 2D design of Annex D.

**3.15** Each face of the mould must have tapped holes to help handling each half of the mould using lifting eye bolts. The type and dimensions of the lifting eye bolts must be chosen and supplied by the Contractor. The position of the tapped holes must be determined by the centre of gravity of each half and must allow a safe handling of the mould.

**3.16** During handling of the assembled mould (both halves together), the two halves of the mould must be fixed together with tie bars. The tie bars must be strong enough to handle both halves of the mould together, using only the lifting eye bolts of one half.

**3.17** The positions of the centerline of the mould must be engraved on each external surface of the half mould (top surface and four sides for the top part of the mould and bottom surface and four sides for the bottom part of the mould). The centroid of the part (x and y) must also be engraved on each external surface of the mould (both parts). The centerline and the centroid are used to control the positioning of the mould on the press platens.

**3.18** An identification plaque must be attached to the mould. Identification must include mould name/drawing number, date of manufacturing, mould weight in kg, maximum service temperature in Celsius, and maximum service tonnage. The information must be engraved or stamped on to the identification plaque.

**3.19** The female half part of the mould must be identified as "TOP" to indicate that it has to be mounted on the top press platen. The male half part of the mould must be identified "BOTTOM" to indicate that it has to be mounted on the bottom press platen.

**3.20** The "end of part" reference line must be engraved in both halves of the mould.

**3.21** The mould must be protected against corrosion during shipping.

**3.22** The mould must be heated as required by the specified process: uniform heating with electrical cartridges up to  $120^{\circ}\text{C} \pm 5^{\circ}\text{C}$  (at the surface).

**3.23** Connections of the heating system (electrical connections) must be compatible with the existing connections in place at NRC's facility. The mould must be connected to the NRC's temperature controller via a single point of connection. The connection of the heating of the mould to the press

must be localised at the back of the mould (see Figure 3). The connection must be done via "Harting HAN-12HSC-M 10A 250V" plug. NRC's press allows 24 heating zones, with a power of 6000 W per zone at 240 V CA – 12 zones for the punch and 12 zones for the cavity. Thus, there are 24 possible connections for the power and 24 possible connections for the thermocouples. Electrical connectors must be supplied by the Contractor.

- 3.24 Electrical components of the mould must be CSA approved and the mould must bear the certification label.
- 3.25 Type "J" thermocouples properly located must allow to control the temperature of the mould and ensure its uniformity. A minimum of eight thermocouples must be used for each one of the male and female parts of the mould for a total of minimum sixteen sensors. The thermocouples must connect to the mould via "Harting HAN 24E-M-16A 500V" male plugs. The connection must be located at the back of the mould, similarly to the electrical connections (see Figure 3).

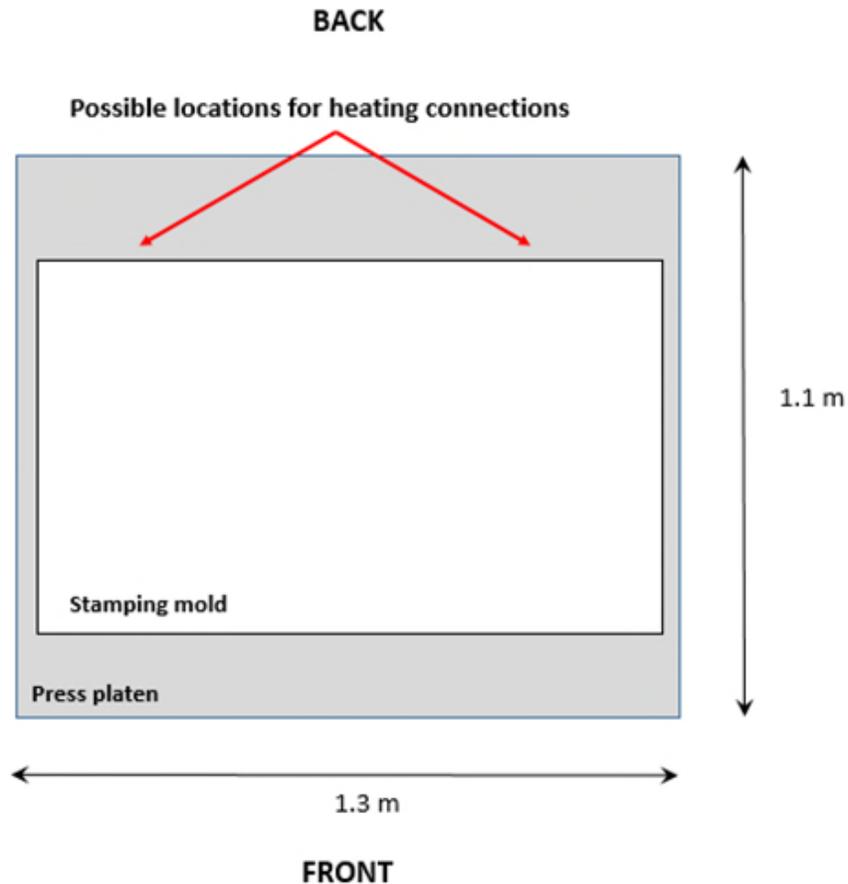


Figure 3: Positions of heating connections between the mould and the press

## 4.0 Deliverables

### 4.1 The Contractor must submit the following deliverables:

- 4.1.1 One(1) turn-key built to specification composite stamping mould with all parts and accessories
- 4.1.2 One mould compliance matrix after mould manufacturing
- 4.1.3 One report of tridimensional control performed on the male and female halves of the mould
- 4.1.4 One summary report (including pictures) on all collected data results
- 4.1.5 One list of spare parts, including supplier names and contact information upon delivery.
- 4.1.6 One electronic copy of mould electrical schematic
- 4.1.7 Proofs of CSA compliance for the electrical components
- 4.1.8 After the contract has been awarded and before the final delivery of the mould, the supplier must provide at least 3 proofs of progress:
  - 1- The completed assembly of the system;
  - 2- Results of tridimensional control of the mould
  - 3- The final integration of the electric components into the system.

These proof must be supported by a document demonstrating the progress of the project (videos, photos and / or internet link) as well as a detailed written test report, sent by email, to NRC project manager. Each written report must be 2 to 3 pages maximum.

### 4.2 Factory Acceptance Test (FAT)

- 4.2.1 The Contractor must perform Factory Acceptance Tests (FAT) on a fully assembled and configured mould, to validate the following requirements:
  - 4.2.1.1 Mould heating capacities: Uniform heating with electrical cartridges must be achieved for a temperature of up to  $120^{\circ}\text{C} \pm 5^{\circ}\text{C}$  (at the surface)
  - 4.2.1.2 Demoulding system: the demoulding system is working.
  - 4.2.1.3 Tridimensional control of the male and female halves of the mould: the dimensions of the male and female halves of the mould must match the 3D design files of the mould supplied by the NRC upon attribution of the contract.
- 4.2.2 The Contractor must conduct the FAT at a mutually agreed upon date/time; NRC personnel must be able to observe and direct the testing.
- 4.2.3 NRC will be responsible for all travel and living expenses for NRC personnel attending the FAT.
- 4.2.4 The Contractor will document all test successes and deficiencies during the FAT and will provide a summary report (including pictures) on all collected data results to NRC. The Contractor will rectify all deficiencies to NRC's satisfaction prior to delivery and acceptance.

## 5.0 Delivery

The mould must be delivered at the following address (where the equipment will be stored):

NRC – Boucherville  
75 Boul. De Mortagne  
Boucherville, Quebec, J4B6Y4

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

Article	Article description	Quantity	Unit price *
1	Approval of factory acceptance test (FAT) by NRC (see 4.2 in Annex A)	1	_____ \$
2	Delivery and final acceptance by NRC of composite stamping mould delivered "turn-key" according to the specifications in Annex A and with all parts and accessories.	1	_____ \$
3	Mould compliance matrix after mould manufacturing (see 4.1.2 in Annex A)	1	_____ \$
4	Report of tridimensional control performed on the male and female halves of the mould (see 4.1.3 in Annex A)	1	_____ \$
5	Summary report (including pictures) on all collected data results (see 4.1.4 in Annex A)	1	_____ \$
6	List of spare parts, including supplier names and contact information upon delivery. (see 4.1.5 in Annex A)	1	_____ \$
7	Electronic copy of mould electrical schematic (see 4.1.6 in Annex A)	1	_____ \$
8	All costs of packaging, transport and delivery	1	_____ \$
<b>TOTAL PRICE (1+2+3+4+5+6+7+8) :</b>			_____ \$ *

**\*If other currency than CAD \$, please indicate : \_\_\_\_\_**

**\*Customs duties included**

**\*Applicable Taxes extra**

## ANNEX "C"

### MANDATORY TECHNICAL CRITERIA

No.	Mandatory technical criteria to be demonstrated (see annexe A)	Reference: Please indicate where these technical criteria are demonstrated within your technical bid.
3.9	The mould must be fabricated in mould steel.	
3.12	The mould must have a functional demolding system, such as shown in mould design	
3.13.1	The mould must have surface tolerances of $\pm 0.3$ mm.	
3.22	The mould must be heated as required by the specified process: uniform heating with electrical cartridges up to $120^{\circ}\text{C} \pm 5^{\circ}\text{C}$ (at the surface).	
3.24	Electrical components of the mould must be CSA approved and the mould must bear the certification label.	
3.1.1	The Contractor must provide a list of a minimum of two (2) projects within the last 10 years where the Contractor has manufactured compression moulds or stamping moulds.	
3.1.2	The Contractor must provide reference(s) for each project. The Contractor must, at a minimum, provide the name and either the telephone number or e-mail address for a contact person. If only the telephone number is provided, it will be used to call to request the e-mail address and the reference check will be done by e-mail.	

Solicitation No. - N° de l'invitation  
31026-200984/A  
Client Ref. No. - N° de réf. du client  
31026-200984

Amd. No. - N° de la modif.  
File No. - N° du dossier  
MTA-0-43042

Buyer ID - Id de l'acheteur  
MTA170  
CCC No./N° CCC - FMS No./N° VME

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**ANNEX "D"**

**2D DESIGN**

**See the attached file**

Solicitation No. - N° de l'invitation  
31026-200984/A  
Client Ref. No. - N° de réf. du client  
31026-200984

Amd. No. - N° de la modif.  
File No. - N° du dossier  
MTA-0-43042

Buyer ID - Id de l'acheteur  
MTA170  
CCC No./N° CCC - FMS No./N° VME

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## **ANNEX "E"**

### **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).

