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PART 1 - GENERAL INFORMATION

1.1 Security Requirements

1. At the date of bid closing, the following conditions must be met:

   (a) the Bidder must hold a valid organization security clearance as indicated in Part 6 - Resulting Contract Clauses;

   (b) the Bidder's proposed individuals requiring access to classified or protected information, assets or sensitive work site(s) must meet the security requirements as indicated in Part 6 - Resulting Contract Clauses;

   (c) the Bidder must provide the name of all individuals who will require access to classified or protected information, assets or sensitive work sites;

2. Bidders are reminded to obtain the required security clearance promptly. Any delay in the award of a contract to allow the successful Bidder to obtain the required clearance will be at the entire discretion of the Contracting Authority.

3. For additional information on security requirements, Bidders should refer to the Industrial Security Program (ISP) of Public Works and Government Services Canada (http://ssi-iss.tpsgc-pwgsc.gc.ca/index-eng.html) website.

1.2 SPECIAL NOTE - Sponsorship

If required, it is recommended that Bidders submit a request for "Organization sponsorship and screening eligibility" with the required information as described on the ISP website by e-mail to the Contracting Authority with subject "Request for Organization sponsorship and screening eligibility – W8486-184737/A". This request should be submitted as soon as possible.

1.3 Statement of Work

The Work to be performed is detailed under Article 6.2 of the resulting contract clauses.

1.4 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.

1.5 Trade Agreements

The requirement is subject to the provisions of the the North American Free Trade Agreement (NAFTA), the Canada-Chile Free Trade Agreement (CCFTA), the Canadian Free Trade Agreement (CFTA), the Canada-Peru Free Trade Agreement (CPFTA), the Canada-Columbia Free Trade Agreement (CColFTA), the Canada-Panama Free Trade Agreement (CPanFTA), the Canada-Honduras Free Trade Agreement (CHFTA), and the Canada-Korea Free Trade Agreement (CKFTA).

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 and Services – Competitive Requirements, are incorporated by reference into and form part of the bid solicitation, with the following modifications:

a) Section 02, Procurement Business Number is deleted in its entirety.

b) Section 20(2), Further Information is deleted in its entirety.

Subsection 5.4 of 2003, Standard Instructions - Goods or Services –Competitive Requirements, is amended as follows:

Delete: 60 days
Insert: 90 days

2.2 Submission of Bids

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

2.3 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 14 days before the bid closing date. Canada will have the right to accept or reject any or all suggestions.

2.4 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.

2.5 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.

2.6 Equipment to be removed

The equipment to be removed is noted in SOW para 3.1.1, as shown in Figures 3-1 and 3-2 and as described in Tables 3-1 and 3-2 is being offered on an as-is, where is basis. The equipment may be viewed during the mandatory site visit indicated in Part 2 - Bidders Instructions, clause 2.7. The trade-in equipment will be immediately available to the selected Contractor upon delivery of the new equipment at destination.

2.7 Mandatory Site Visit

It is mandatory that the Bidder or a representative of the Bidder visit the work site. Arrangements have been made for the site visit to be held at National Printing Building, QETE, 45 Sacré-coeur Blvd., Gatineau, Quebec, on June 15th, 2018. The site visit will begin at 9h00 to 11h00 and 12h30 to 14h30 DST, in room C-2119, 2nd floor.

Personnel security screening is required prior to gaining authorized access to PROTECTED information, assets, or sites. Bidders must communicate with the Contracting Authority (RE: para 6.5.1) no later than June 8th, 2018 at 14:00 to confirm attendance and provide the name(s) of the person(s) who will attend. The Bidder's Company Security Officer (CSO) must ensure that their representatives hold a valid security clearance at the required level for the site visit. Failure to comply with the security requirements will result in the representative(s) being denied access to the site.

Bidders will be required to sign an attendance sheet. Bidders should confirm in their bid that they have attended the site visit. Bidders who do not attend the mandatory site visit or do not send a representative will not be given an alternative appointment and their bid will be declared non-responsive. Any clarifications or changes to the bid solicitation resulting from the site visit will be included as an amendment to the bid solicitation.

2.8 SACC Manual Clauses

SACC Manual Clause B1000T, (2014-06-26), Condition of Material - Bid

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 3 hard copies

Section II: Financial Bid 1 hard copy

Section III: Certifications 3 hard copies

Section IV: Additional Information 3 hard copies

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

Canada requests that Bidders follow the format instructions described below in the preparation of 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 as follows:

Bidders must submit firm prices, Delivered Duty Paid (DDP) at 45 boul. SacréCoeur, Gatineau, QC, J8X 1C6; Incoterms 2010, Applicable Taxes excluded. The total amount of Applicable Taxes must be shown separately.

Bids must be submitted in Canadian dollars.

Bidders must use Attachment 1 to Part 3 to submit their prices, the Bidders must include Attachment 1 to Part 3 as part of their financial bid.

Blank Prices : Bidders are requested to insert ‘’$0.00’’ for any item for which it does not intend to charge or for items that are already included in other prices set out in Attachment 1 to Part 3. If the Bidder leaves any price blank, Canada will treat the prices as ‘’$0.00’’ for evaluation purposes and may request that the Bidder confirm that the price is, in fact, $0.00. No bidder will be permitted to add or change a price as part

of this confirmation. Any bidder who does not confirm that the price for a blank item is $0.00 will be declared non-responsive.

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 Exchange Rate Fluctuation

SACC Manual Clause C3011T (2013-11-06), Exchange Rate Fluctuation

Section III: Certifications

3.1.3 Bidders must submit the certifications and additional information required under Part 5.

Section IV: Additional Information

3.1.4 The Company Security Officer (CSO) must ensure through the Industrial Security Program (ISP) that the Contractor and individuals hold a valid security clearance at the required level, as indicated in Part 1, clause 1.1, Security Requirements.

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 Mandatory Site Visit

The Bidder must attend the mandatory site visit as per Part 2, 2.7 Mandatory Site Visit

4.1.2 Mandatory Technical Evaluation

The Mandatory Technical Criteria are noted in Annex "B" – Mandatory Technical Evaluation Criteria.

4.1.3 Financial Evaluation

The price of the bid will be evaluated in Canadian dollars, Delivered Duty Paid (DDP) at 45 boul. Sacré Coeur, Gatineau, QC, J8X 1C6; Incoterms 2010, Canadian customs duties and excise taxes included, Applicable Taxes excluded.

4.1.4 Basis of Selection

A bid must comply with the requirements of the bid solicitation and meet all mandatory technical evaluation criteria to be declared responsive. The responsive bid with the lowest evaluated price as noted in Attachment 1 to Part 3 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 otherwise specified, 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 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.

5.1.1 Trade Certifications

The Bidder must provide the following certifications:

1) Electrician Certifications – for all workers proposed to perform the Work; and,

2) Forklift Driver/Operator Certifications for all drivers/operators proposed to perform the Work.

3) Original Equipment Manufacturer (OEM) Approved Supplier letter must be provided from the OEM confirming the Contractor is an Approved Supplier.

5.2 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.

5.2.1 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#afed).

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.

5.2.2 Insurance - Proof of Availability Prior to Contract Award

The Bidder must provide a letter from an insurance broker or an insurance company licensed to operate in Canada stating that the Bidder, if awarded a contract as a result of the bid solicitation, can be insured in accordance with the Insurance Requirements specified in Annex “F”.

If the information is not provided in the bid, the Contracting Authority will so inform the Bidder and provide the Bidder with a time frame within which to meet the requirement. Failure to comply with the request of the Contracting Authority and meet the requirement within that time period will render the bid non-responsive.

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 The following security requirements (SRCL and related clauses provided by ISP) apply and form part of the Contract.

1. The Contractor/Offeror must, at all times during the performance of the Contract/Standing Offer, hold a valid Designated Organization Screening (DOS), issued by the Canadian Industrial Security Directorate (CISD), Public Works and Government Services Canada (PWGSC).

2. The Contractor/Offeror personnel requiring access to sensitive work site(s) must EACH hold a valid RELIABILITY STATUS, granted or approved by CISD/PWGSC.

3. Subcontracts which contain security requirements are NOT to be awarded without the prior written permission of CISD/PWGSC.

4. The Contractor/Offeror must comply with the provisions of the:

   a. Security Requirements Check List and security guide (if applicable), attached at Annex "B";
   b. Industrial Security Manual (Latest Edition).

6.1.1.2 The Company Security Officer (CSO) must ensure through the Industrial Security Program (ISP) that the Contractor and individuals hold a valid security clearance at the required level of document safeguarding capability.

6.1.1.3 The Contractor must provide the approved Visit Clearance Request (VCR) to **P-OTG.DGLEPMDIVOR@intern.mil.ca** with the subject line providing the contract reference.

6.2 Statement of Work

The Contractor must perform the Work in accordance with the Statement of Work 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) issued by Public Works and Government Services Canada.

6.3.1 General Conditions

2010A (2016-04-04), General Conditions - Goods (Medium Complexity) and
2010C (2016-04-04), General Conditions - Services (Medium Complexity), apply to and form part of the Contract, with the following modifications:

a. Definition of Minister is modified as follows:

"Canada", "Crown", "Her Majesty" or "the Government" means Her Majesty the Queen in right of Canada as represented by the Minister of National Defence and any other person duly authorized to act on behalf of that minister or, if applicable, an appropriate minister to whom the Minister of National Defence has delegated his or her powers, duties or functions and any other person duly authorized to act on behalf of that minister.

6.3.2 Supplemental General Conditions

4001 (2015-04-01, Hardware Purchase, Lease and Maintenance and
4003 (2010-08-16), Licensed Software and
4004 (2013-04-25), Maintenance and Support Services for Licensed Software apply to and form part of the Contract.

6.4 Delivery Date

All the deliverables must be received within 6 weeks of the contract award.

6.4.1 Delivery

Goods must be consigned and delivered to the destination specified in the contract:

1. Incoterms 2010 "DDP Delivered Duty Paid" 45 Sacré-coeur Blvd., Gatineau, Quebec.

2. The Contractor must deliver the goods to the Department of National Defence (DND) Quality Engineering Test Establishment (QETE) by appointment only. The Contractor or its carrier must arrange delivery appointments by contacting the Traffic Section at the location shown below. The consignee may refuse shipments when prior arrangements have not been made.

    a. DND QETE
    45 Sacré-coeur Blvd.
    Gatineau, Quebec
    Telephone: 819-939-9083

6.5 Authorities

6.5.1 Contracting Authority

The Contracting Authority for the Contract is:
Valerie Bleskie, DLP 7-1-2
Department of National Defence
Directorate of Land Procurement
101 Colonel By Drive
Ottawa, ON
K1A 0K2
Telephone: 819-939-6477
Facsimile: 819-994-7659
E-mail address: Valerie.Bleskie@forces.gc.ca

The Contracting Authority is responsible for the management of the Contract and any changes to the Contract must be authorized in writing by the Contracting Authority. The Contractor must not perform work in excess of or outside the scope of the Contract based on verbal or written requests or instructions from anybody other than the Contracting Authority.

6.5.2 Technical Authority

The Technical Authority for the Contract is:
Name: _____
Title: _____
Organization: _____
Address: _____
Telephone : ___ ___ _____
Facsimile: ___ ___ _____
E-mail 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

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 price(s), as specified in the Annex “B” - Pricing for a total cost of $ _____ *(insert the amount at contract award)* . Customs duties are included, and Applicable Taxes are extra.

Canada will not pay the Contractor for any design changes, modifications or interpretations of the Work, unless they have been approved, in writing, by the Contracting Authority before their incorporation into the Work.

6.6.1.1 Trade-in Value

The trade - in value of the equipment to be removed is noted in Annex “B” Items 001 to 003. The trade-in value of the equipment to be removed will be applied against the value of the final invoice.

6.6.2 Multiple Payment

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

6.6.3 Taxes – Foreign-based Contractor

SACC Manual Clause C2000C (2007-11-30), Taxes – Foreign-based Contractor

6.6.4 Electronic Payment of Invoices – Contract

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

a. Direct Deposit (Domestic and International);
b. Electronic Data Interchange (EDI);
c. Wire Transfer (International (Only);

6.6.6 Invoicing Instructions

1. The Contractor must submit invoices in accordance with the section entitled "Invoice Submission" of the general conditions. Invoices cannot be submitted until all work identified in the invoice is completed.

2. Invoices must be distributed as follows:

The original must be forwarded to the address shown on page 1 of the Contract for certification and payment.

6.6.7 Equipment to be removed trade-in value

The Equipment to be removed trade-in value as noted in Annex “B” has taken into consideration the fact that the equipment to be removed will be retained for use by QETE until the new equipment is delivered. No adjustment to the trade-in value of the equipment to be removed will be made to allow for depreciation arising out of normal wear and tear on the equipment to be removed between the time of appraisal – determined to be the date of the mandatory site visit - and the date of removal of the equipment to be removed. Once the equipment has been disconnected from the building power supply by the Contractor, there shall be no adjustment to the trade-in value of the equipment to be removed.

Prior to performing any Work in Annex “A”, if the Contractor has reason to claim that a change in the condition of the equipment to be removed is beyond what would be considered to be normal wear and tear, the Contractor shall not remove the equipment to be removed. The Contractor will immediately inform the on-site QETE personnel of its decision not to remove the equipment to be removed in writing.

Should the Contractor have a reason to claim a change in the condition of the equipment to be removed is beyond what would be considered to be normal wear and tear, the Contractor agrees that no Work in Annex “A” will be performed until directed by the Contracting Authority.

6.8 Certifications

6.8.1 Compliance

The continuous compliance with the certifications provided by the Contractor in its bid and the ongoing cooperation in providing additional information are conditions of the Contract. Certifications are subject to verification by Canada during the entire period of the Contract. If the Contractor does not comply with any certification, fails to provide the additional information, or if it is determined that any certification made by the Contractor in its bid is untrue, whether made knowingly or unknowingly, Canada has the right, pursuant to the default provision of the Contract, to terminate the Contract for default.

6.9 Applicable Laws

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

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 supplemental general conditions; 4001 (2015-04-01), Hardware Purchase, Lease and Maintenance;
(c) The supplemental general conditions; 4003 (2010-08-16), Licensed Software;
(d) The supplemental general conditions; 4004 (2013-04-25), Maintenance and Support Services for Licensed Software;
(e) The General Conditions 2010A (2016-04-04), General Conditions - Goods (Medium Complexity);

(f) The General Conditions 2010C (2016-04-04), General Conditions - Services (Medium Complexity);
(g) Annex “A”, Statement of Work;
(h) Annex “B”, Pricing;
(i) Annex “C”, Security Requirements Check List;
(j) Annex “D”, Commercial General Liability Insurance
(k) The Contractor's bid dated _____ (*insert date of bid*)

6.11 Defence Contract

SACC Manual Clause A9006C (2012-07-16), Defence Contract

6.12 Insurance – Specific Requirements

The Contractor must comply with the insurance requirements specified in Annex “F”. The Contractor must maintain the required insurance coverage for the duration of the Contract. Compliance with the insurance requirements does not release the Contractor from or reduce its liability under the Contract.

The Contractor is responsible for deciding if additional insurance coverage is necessary to fulfill its obligation under the Contract and to ensure compliance with any applicable law. Any additional insurance coverage is at the Contractor's expense, and for its own benefit and protection.

The Contractor must forward to the Contracting Authority within ten (10) days after the date of award of the Contract, a Certificate of Insurance evidencing the insurance coverage and confirming that the insurance policy complying with the requirements is in force. For Canadian-based Contractors, coverage must be placed with an Insurer licensed to carry out business in Canada, however, for Foreign-based Contractors, coverage must be placed with an Insurer with an A.M. Best Rating no less than “A-”. The Contractor must, if requested by the Contracting Authority, forward to Canada a certified true copy of all applicable insurance policies.

6.13 Packaging Requirement using Specification D-LM-008-036/SF-000

The Contractor must prepare all items for delivery in accordance with the latest issue of the Canadian Forces Packaging Specification ***D-LM-008-036/SF-000***, DND Minimum Requirements for Manufacturer's Standard Pack.

The Contractor must package all items in quantities of 1 per package.

6.14 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.

6.15 Condition of Material – Contract

The Contractor must provide material that is new production of current manufacture supplied by the principal manufacturer or its accredited agent. The material must conform to the latest issue of the

applicable drawing, specification and part number, as applicable, that was in effect on the bid closing date.

6.16 SACC Manual Clauses

SACC Manual Clause A9039C, (2008-05-12), Salvage
SACC Manual Clause A9068C, (2010-01-11, Government Site Regulations
SACC Manual Clause B1501C (2006-06-16), Electrical Equipment
SACC Manual Clause B7010C (2008-05-12), Marking and Labelling
SACC Manual Clause B7500C (2006-06-16), Excess Goods
SACC Manual Clause D2000C (2007-11-30), Marking
SACC Manual Clause D2001C (2007-11-30), Labelling
SACC Manual Clause D2025C (2013-11-06), Wood Packaging Materials
SACC Manual Clause D5545C (2010-08-16), ISO 9001:2008 – Quality Management Systems – Requirements (Quality Assurance Code C)
SACC Manual Clause D6010C (2007-11-30), Palletization
SACC Manual Clause D9002C (2007-11-30), Incomplete Assemblies

ANNEX "A"

STATEMENT OF WORK

Live Tooling Slant Bed Lathe

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1. SCOPE

1.1. Objective

1.1.1. The purpose of this Statement of Work (SOW) is to define the technical requirements for one slant bed lathe with live tooling and Y-axis with computer numerical control (CNC) and manual control capability.

1.2. Background

1.2.1 The Quality Engineering Test Establishment (QETE) is a field unit within the Canadian Armed Forces (CAF) with the mandate to provide the Department of National Defence (DND) and the CAF with specialized, technology-based test and investigative services required to support engineering decisions throughout all phases of materiel acquisition and support. QETE provides technical advice and consultation, material evaluation, investigation and analysis, calibration and measurement, in the domains of mechanical and materials engineering, applied science, electrical engineering, measurement science and imagery.

1.3. Terminology

AC	Alternating Current
CAD	Computer Aided Design
CAF	Canadian Armed Forces
CAM	Computer Aided Manufacturing
CNC	Computer Numerically Controlled
CSA	Canadian Standards Association
DND	Department of National Defence
FSR	Factory Service Representative
IEC	International Electrotechnical Commission
ISO	International Organization for Standardization
in	Inches
mm	Millimetres
NPB	National Printing Bureau
QETE	Quality Engineering Test Establishment
RPM	Revolutions Per Minute
SOW	Statement of Work
VAC	Volts Alternating Current

Table 1-1 Acronyms and Abbreviations

2. REFERENCE DOCUMENTS

2.1. The following standards, references and documents apply to this SOW:

2.1.1. Canadian Electrical Code.[1]

3. REQUIREMENTS

3.1. Scope of Work

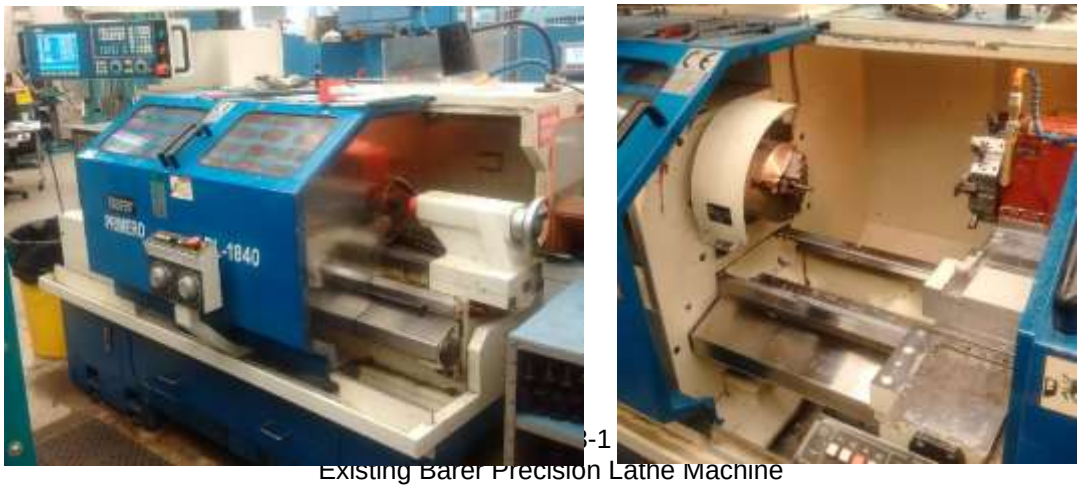
3.1.1. The scope of work includes:

(a) Decommission, disconnect, removal, and trade-in of the existing precision lathe machine (identified in Figure 3-1 and in Table 3-1);

(b) Delivery, installation, testing and commissioning of a new live tooling slant bed lathe with both computer numerical control (CNC) and manual control capabilities;

(c) Site clean-up and removal and disposal of all packaging and debris; and

(d) Training for up to six QETE personnel on the new Equipment.



3-1
Existing Barer Precision Lathe Machine

Table 3-1 Existing Precision Lathe Machine	
Model No.	PL-1840
Serial Number	180321
Manufacturer	Primero Machine Tool Corp.
Supplier	Barer Engineering Co.
Date of Manufacture	February 2006
NATO Stock Number	3416-20-A0C-6640
Overall Height [2]	1,900 mm (74.8 inches)
Overall Depth	1,280 mm (50.4 inches)
Overall Width	2,190 mm (86.2 inches)
Net Weight	2,270 kg (5,000 pounds)

1 http://www.csagroup.org/services/codes-and-standards/installation-codes/canadian-electrical-code/
2 All measurements are approximate and are taken from the manufacturers' published specification sheets.

3.1.2. The Equipment is defined as one (1) Computer Numerical Controlled (CNC), Live Tooling 30 Degree Slant Bed Lathe with Milling and Y-Axis.

3.1.3. General Requirements:

3.1.3.1. The Contractor must provide transport of the old equipment from its current location and load the equipment onto the Contractor's vehicle for disposal, as well as provide transport of new Equipment from the Contractor's delivery vehicle to the installation location.

3.1.3.2. All electrical components of the Equipment must be certified or approved for use in accordance with the Canadian Electrical Code, Part 1, before delivery, by a certification organization accredited by the Standards Council of Canada. Accordingly, electrical components of the Equipment must be Canadian Standards Association (CSA) compliant and must include a CSA certification mark applicable to Canada on a sticker on the delivered item(s).

3.1.3.3. The Equipment must meet the more stringent of the technical specifications stated in this Statement of Work or the manufacturer's published specifications.

3.1.3.4. The Equipment must meet the manufacturer's published specifications for any functional or performance parameter not specified in this Statement of Work.

3.1.4. The machine must be provided with the following features:

(a) Servo drives and motors

(b) Motor mounting castings and hardware

(c) 30 Degree Slant Bed

(d) Y-axis & Milling function

(e) Indexable tool turret: Minimum 15 positions

(f) Programmable Swing Bucket Parts Catcher: Minimum size 60mm/2.36in, 145mm/5.71 lg., 3kg/4.41lbs.)

(g) Right side/exit Hinge Type Chip Conveyor

(h) Hydraulic Unit Capacity: Minimum 34L/8.98 gal.

(i) Pressure Switch for Hydraulic Power Fault

(j) Automatic Lubrication System

(k) Lubrication Failure Alarm

(l) Lubrication Unit Capacity: Minimum 1L/0.26gal.

(m) Coolant Unit Capacity: Minimum 80L/21.13gal.

(n) Fanuc Oi-TF CNC control

(o) Separate Operator's Panel

(p) Spindle RPM Meter

(q) Load Meter

(r) Spindle Jog

(s) Memory Protect Key

(t) Safety Interlock for Chucking failure

(u) Controlled Axes, 4 axes (X, Z, C, Y)

(v) Simultaneously Controlled Axes: 4 axes (X, Z, C, Y)

(w) Console and encoder mounting hardware

(x) Machine specific bracketry

(y) Halogen or LED work light

(z) Machine level bolts and pads

(aa) Chip tank and coolant pump

(bb) Coolant piping at upper of spindle

(cc) Machine guards with interlocks

(dd) Chuck open/close foot switch

(ee) Fixed Air Blow

(ff) USB, Ethernet, and memory card interface (input/output)

(gg) One (1) Kitagawa 8” 3-Jaw Hydraulic Chuck, type BB-08A066

(hh) One (1) set of Hard Jaws for Kitagawa 8” 3-Jaw Hydraulic Chuck

(ii) Five (5) sets of Soft Jaws for Kitagawa 8” 3-Jaw Hydraulic Chuck

(jj) One (1) set of printed Operating Manuals, English

(kk) One (1) set of printed Programming Manuals, English

(ll) One (1) set of printed Maintenance Manuals, English

(mm) One (1) set of electronic Operating Manuals, English

(nn) One (1) set of electronic Programming Manuals, English

(oo) One (1) set of electronic Maintenance Manuals, English

3.1.5. The machine must be provided with the following input command capabilities:

(a) Least Input Increment: 0.001 mm/0.0001 in. (X diameter)

(b) Least Command Increment: X: 0.0005mm, Z: 0.001 mm

(c) Absolute/Incremental Programming: X, Z, C, Y / U, W, H, V

(d) Standard Decimal Input

(e) Inch/Metric Conversion G20/G21

(f) Programmable Data Input G10

3.1.6. The machine must be provided with the following interpolation capabilities:

(a) Positioning G00

(b) Linear Interpolation G01

(c) Circular Interpolation G02 / 03, CW / CCW

(d) Polar Coordinate Interpolation G12.1

(e) Cylindrical Interpolation – G07.1

3.1.7. The machine must be provided with the following feed functions:

(a) Cutting Feed – Feed mm/min

(b) Cutting Feed – X-Axis: 1 – 7500mm/min, 0.04 – 295in/min minimum

(c) Cutting Feed – Z-Axis: 1 – 4800mm/min, 0.04 – 177in/min minimum

(d) Cutting Feed – mm/rev

(e) Cutting Feed – 0.0001 – 450.0000mm/rev minimum

(f) Cutting Feed – 0.000001 – 9.5in/rev minimum

(g) Dual G04

(h) Feed per Min / Feed per Revolution G98 / G99

(i) Thread Cutting G32

(j) Standard Thread Cutting Retract

(k) Handle Feed Manual Pulse Generator x 1(0.001/0.01/0.1mm)

(l) Standard Automatic Acceleration/Deceleration

(m) Standard Linear Acceleration/Deceleration

(n) Rapid Feed Override Low Range / 25 / 50 / 100%

(o) Cutting Feed Override 0 - 150%

(p) Look Ahead Control G08

3.1.8. The machine must be provided with the following programming functions:

(a) Minimum Part Program Storage Capacity 512 kbyte

(b) Part Program Editing – Delete, Insert, Change

(c) Standard Program Number Search

(d) Standard Sequence Number Search

(e) Standard Address Search

(f) Number of Registered Programs 400

(g) Program storage memory backed up by battery

(h) Standard background editing

(i) Standard DNC Operation Through Memory Card

(j) Standard expanded program editing

(k) Standard Program No. Search

(l) Standard Multiple Program Simultaneous Editing

(m) Standard Extended Part Program Editing

3.1.9. The machine must meet the following C-Axis control specifications:

(a) Numerically controlled C-axis

(b) Simultaneously numerically controlled X, Y, C axis.

(c) Least input increment: 0.001 deg.

(d) Least command increment: 0.001 deg.

(e) Maximum programmable dimension: +/- 999999.999˚

(f) Absolute/Incremental Programming: C/H

(g) Cutting feedrate: Per minute: C-axis: 1 to 4800 deg/min

(h) Polar coordinate interpolation: G12.1

(i) Cylindrical coordinate interpolation: G07.1

(j) Available Stored Pitch Error Compensation

(k) Available Milling Rigid Tapping

(l) Available Polygonal Turning Function

(m) Relative Position Encoder αiBZ sensor

3.1.10. The machine must meet the following Y-Axis control specifications:

(a) Additional numerically controlled axes: 2 axis: C, Y axes (total 4)

(b) Simultaneously controlled X, Z, C axes

(c) Least input increment: 0.001mm/0.0001 in, 0.001 deg.

(d) Least command increment: Y: 0.001mm, C: 0.001 deg.

(e) Maximum programmable dimension: +/- 999999.999mm / +/-39370.0787in, +/- 999999.999 deg

(f) Absolute/Incremental Programming: C, Y/H, V

(g) C-Axis Cutting Feedrate: (Per minute) 1 to 4800 deg/min

(h) Y-Axis Cutting Feedrate: (Per minute) 1 to 6000 deg/min, 0.01 to 236 in/rev

(i) Cutting Feedrate Per Revolution: 0.0001 to 500.0000 mm/rev, 0.000001 to 9.999999 in/rev

(j) Polar coordinate interpolation: G12.1

(k) Cylindrical coordinate interpolation: G07.1

(l) Available Stored Pitch Error Compensation

(m) Available helical interpolation

(n) Available Y-axis offset

(o) Available milling rigid tapping

(p) Available polygonal turning

(q) Relative C-axis αiBZ sensor Position Encoder

(r) Absolute Y-axis position pulse encoder

3.1.11. The machine must be provided with the following operation and display capabilities:

(a) Minimum 10 inch or larger high resolution LCD colour display

(b) Keyboard: Separate type MDI unit with standard keys

(c) Manual Data Input (MDI): Minimum available 511 characters

(d) Standard run time display

(e) Standard number of parts display

(f) Standard clock function

3.1.12. The machine must be provided with the following input/output (I/O) Device capabilities:

(a) Built-in ETHERNET interface for communication port using a CAT 6/RJ-45 cable (10/100/1000 BASE-T) along with necessary network card for communication

(b) Memory card input/output

(c) USB memory device input/output

3.1.13. The machine must be provided with the following S,T,M functions:

(a) Spindle function: S-4 digit (direct designation)

(b) Constant surface speed: G96/G97

(c) Spindle speed fluctuation detection: G25/G26

(d) Miscellaneous M functions: M-4 digit

3.1.14. The machine must be provided with the following tool offset capabilities:

(a) Tool geometry and wear offsets: T-4 digit

(b) Tool nose R compensation: G41, G42/G40

(c) Minimum number of tool offset pairs: 64

3.1.15. The machine must be provided with the following work coordinate system capabilities:

(a) Standard manual return to reference point

(b) Automatic return to reference point: G28

(c) Return to 2nd reference point: G30

(d) 3rd, 4th reference point: G30 P3, G30 P4

(e) Reference point return check: G27

(f) Standard automatic coordinate system setting

(g) Coordinate system shift: G10 P0

(h) Work coordinate system: G52, G53, G54 to G59

3.1.16. The machine must be provided with the following operation assist functions:

(a) Standard single block

(b) Standard optional stop

(c) Standard optional stop skip

(d) Standard dry run

(e) Standard Chuck OD/ID changeover

(f) Standard machine lock

(g) Standard program check

(h) Standard manual absolute

(i) Standard in/out

3.1.17. The machine must be provided with the following programming assist functions:

(a) Standard direct R designation for circular interpolation

(b) Standard direct input of dimension data

(c) Standard direct input of chamfering & corner R designation

(d) Canned cycle: G90, G92, G94

(e) Multiple repetitive cycle: G70 to G76

(f) Multiple repetitive cycle II: G71, G72

(g) Canned cycle for drilling : G80 to G89

(h) Polar coordinate interpolation: G12.1

(i) Cylindrical coordinate interpolation: G07.1

(j) Standard subprogram

(k) Standard help function

(l) Standard custom macro common values: After addition: #100 to #199, #500 to #999 available

(m) Available FS10/11

3.1.18. The machine must be provided with the following program support capabilities:

(a) Thread Cutting Cycle Retract

(b) Rigid Tap Function

(c) Standard Circular Interpolation R Programming

(d) Helical Interpolation

(e) Drilling Canned Cycle

(f) Direct Drawing dimension Programming or Chamfering and Corner R

(g) Canned Cycle G90, G92, G94

(h) Multiple Repetitive Canned Cycle G70 – G76

(i) Multiple Repetitive Canned Cycle II G71, G72

(j) Canned Cycle for Drilling G80 – G89

(k) Standard Sub Program

(l) Standard Help Function

(m) Standard Custom Macro

(n) Standard Work Navigation (Torque Type)

(o) Standard Tool Monitoring Function

(p) Standard Excessive/Abnormal Load Detection

(q) Standard navigator for part and datum point recognition

(r) Manual Guide I Function Conversational Programming

(s) Background Editing Function

(t) Programmable Parameter Entry

(u) Direct Drawing Dimensions Programming

(v) Look Ahead Control

(w) Graphic Display for Tool Path

(x) Work Piece Co-ordinate

(y) Run Time Display

(z) Parts Number Display

(aa) Expanded Part Programming Editing

(bb) Custom Macro B

(cc) Standard Backlash Compensation for mechanical error

3.1.19. The machine must be provided with the following safety and machinability capabilities:

(a) Standard stroke limit

(b) Standard chuck tailstock barrier - stored stroke check

(c) Over travel detection

(d) I/O signal Self-diagnosis function

(e) Fully enclosed, dust proof enclosure construction

3.1.20. The machine must be provided with the following control software capabilities to support machining, operation, and automation functions:

(a) Tool Counter

(b) Spare tool index

(c) Work counter

(d) Load Monitor

(e) Software work pusher

(f) Quick offset input

(g) Quantitative offset

(h) Involute curve machining cycle

(i) Arbitrary axis torque limit

(j) Modal G code initialization

(k) Work co-ordinate system renewal

(l) Bar feeder cycles and etc.

(m) Idling operation

3.1.21. The machine must be provided with the following control software capabilities to support NC program edit and creation based on FANUC Manual Guide i functions:

(a) Turning cycle creation

(b) Milling machining cycle creation

(c) 3-dimentional machining cycle creation

(d) Graphic tool path drawing

(e) Process edit

(f) Fixed form sentence menu selecting

(g) NC statement edit (cut, copy, paste)

(h) Automatic determination of cutting conditions

(i) Conversational programming of fixed form sentences

3.1.22. Software Compatibility – The machine must be compatible with the following versions of MasterCAM X8 and X9 software and GibbsCAM software:

(a) MasterCAM X8 version 0.26.0.139

(b) MasterCAM X9 version 18.0.11898.0

(c) GibbsCAM version 10.3.16 (64 bit)

3.1.23. The machine must be provided working Post Processors for the software identified in paragraph 3.1.22 above.

3.1.24. The machine must be provided with the following capacity capabilities:

(a) Minimum Swing Over Bed: 390mm / 15.35 in

(b) Minimum Swing Over Carriage: 310mm / 12.20 in

(c) Maximum Turning Diameter: 300mm / 11.81 in

(d) Minimum Distance Between Centers: 425mm / 16.73 in

(e) Maximum Turning Length: 310mm / 12.20 in

(f) Maximum Bar Size: 70mm / 2.75 in

(g) Minimum Chuck size: 8 inch

(h) Minimum Turret Force (X-Axis): 7500 N

(i) Minimum Turret Force (Y-Axis): 6000 N

(j) Minimum Turret Force (Z-Axis): 7500 N

3.1.25. The machine must be provided with the following axis travel capabilities:

(a) Minimum Axis Travel (X-Axis): 210mm / 8.27 in

(b) Minimum Axis Travel (Z-Axis): 315mm / 12.40 in

(c) Minimum Axis Travel (Y-Axis): +/- 40mm / +/- 1.57 in

3.1.26. The machine must be provided with the following main spindle capabilities:

(a) Minimum Spindle Speed Range: 0 – 4000 RPM

(b) Minimum Number of Spindle Speeds : Stepless

(c) Spindle Nose: A2-6

(d) Minimum Hole Through Spindle: 80mm / 3.15 in

(e) Minimum Front Bearing Inner Diameter: 110mm / 4.33 in

(f) Minimum Hole Through Draw Tube: 65mm / 2.56 in

(g) Spindle Speed Override Switch

3.1.27. The machine must be provided with the following capabilities for the drive motors:

(a) Spindle Drive Motor: 15hp/11kW

(b) X-Axis Drive Motor: 1.8kW

(c) Z-Axis Drive Motor: 1.8kW

(d) Y-Axis Drive Motor: 1.3kW

(e) Turret Drive Motor: 0.75kW

(f) Rotary Tool Drive Motor: 5.5hp/3.7kW

3.1.28. The machine must be provided with the following capabilities for the C-Axis:

(a) Least Increment: 0.001˚

(b) Least Command Increment: 0.001˚

(c) Minimum Rapid Index Speed: 600 min-1

(d) Minimum Cutting Feedrate Range: 1 to 4800 deg/min

(e) Simultaneous Controlled Axis: 3 axes (X+Z+C)

(f) C-Axis Style Clamp: Disk Clamp

(g) Minimum Braking Torque: 91 N-m

3.1.29. The machine must be provided with the following rotary tool capabilities:

(a) Minimum Speed Range: 0 to 5500 min-1

(b) Minimum Number of Tool Mounting Positions: 15 positions

(c) Straight Tool Holder Size Range: ϕ1mm to ϕ16mm

(d) Cross Tool Holder Size Range: ϕ1mm to ϕ16mm

3.1.30. The machine must be provided with the following turret head capabilities:

(a) Minimum Number of Tool Stations: 15

(b) Minimum Number of Tool Index Positions: 15

(c) Turret Index/Positioning Mechanism: Curvic Coupling

(d) Minimum Turret Clamping Force: 44 kN

(e) Minimum Inside Diameter Turning Tool Mounting Bore Diameter: 32mm (1.26 in.)

3.1.31. The machine must be provided with the following saddle capabilities:

(a) Configuration: 30˚

(b) Minimum X-Axis Ball Screw Diameter: 32mm, (1.26in.)

(c) Minimum Z-Axis Ball Screw Diameter: 32mm, (1.26in.)

(d) Minimum Y-Axis Ball Screw Diameter: 32mm, (1.26in.)

(e) Minimum X-Axis Distance Between Slides: 250mm (9.84)

(f) Minimum Z-Axis Distance Between Slides: 365mm (14.37)

(g) Minimum Y-Axis Distance Between Slides: 250mm (9.84)

3.1.32. The machine must be provided with the following cutting feed rate capabilities:

(a) Minimum X-Axis Rapid Traverse: 24,000mm/min. (944.88 in/min.)

(b) Minimum Z-Axis Rapid Traverse: 36,000mm/min. (1417.32 in/min.)

(c) Minimum Y-Axis Rapid Traverse: 600,000mm/min. (236.22 in/min.)

(d) Minimum X-Axis Cutting Feedrate Range: 1 to 8000 mm/min. (0.04 to 314.96 in/min.)

(e) Minimum Z-Axis Cutting Feedrate Range: 1 to 8000 mm/min. (0.04 to 314.96 in/min.)

(f) Minimum Y-Axis Cutting Feedrate Range: 1 to 6000 mm/min. (0.04 to 236.22 in/min.)

3.1.33. The machine must be provided with the following tailstock capabilities:

(a) Drive: Manual

(b) Minimum Positioning Stroke: 200mm (7.87in)

(c) Minimum Spindle Diameter: 70mm (2.76in)

(d) Taper Hole Size: MT-4

(e) Standard MT-4 Rotating Center

(f) Minimum Spindle Stroke: 80mm (3.15in)

(g) Clamping Method: Manual

3.1.34. The machine must be provided with the following physical dimensions and capabilities:

(a) Maximum Machine Height: 1900mm/74.803in

(b) Maximum Floor Space Required: 1700mm x 1700mm/66.92in x 66.92in

(c) Minimum Machine Weight: 3200kg/7056lbs

(d) Maximum Noise Level: 83dB

(e) Maximum Workhead Vibration: 10V

(f) Maximum Saddle Vibration: 10V

3.1.35. The machine must be provided with the following tool holder capabilities:

(a) Six (6) Tool holders A for CCW

(b) Two (2) Multi-Boring Holders 1.0”

(c) Four (4) Boring Holder ID 1.1/4”

(d) Two (2) Round Hole Bush 1.0” – 3/4”

(e) Two (2) Round Hole Bush 1.0” – 1/2”

(f) Two (2) Round Hole Bush 1.0” – 5/8”

(g) Three (3) Cross Milling Holder

(h) Three (3) Face Milling Holder

(i) Ten (10) ALPS Collet (type AR 25*) (8mm – 16mm)

3.1.36. The machine must function with the following accessories, which must be provided with the machine:

(a) One (1) Manual Tool Setter

(b) One (1) Thru-turret/tool coolant – High Pressure 300 psi Coolant pump including 20 psi pump

(c) One (1) Hainbuck Spanntop Nova Combi Pull-back chuck

(d) One (1) set of Clamping heads RD BZI 4-65MM (Round) for Hainbuck Spanntop Nova Combi Pull-back chuck

(e) One (1) set of Clamping heads RD BZI 8-56MM (Hex) for Hainbuck Spanntop Nova Combi Pull-back chuck

(f) One (1) set of Clamping heads RD BZIG 3-65MM (Round) for Hainbuck Spanntop Nova Combi Pull-back chuck

(g) One (1) set of Clamping heads RD BZIG 7-56MM (Hex) for Hainbuck Spanntop Nova Combi Pull-back chuck

(h) Three (3) Clamping heads RD BZI HSW 3MM (Machinable) for Hainbuck Spanntop Nova Combi Pull-back chuck

(i) Three (3) Clamping heads RD BZI HSW 5MM (Machinable) for Hainbuck Spanntop Nova Combi Pull-back chuck

(j) Three (3) Clamping heads RD BZI HSW 8MM (Machinable) for Hainbuck Spanntop Nova Combi Pull-back chuck

(k) Three (3) Clamping heads RD BZI HSW 20MM (Machinable) for Hainbuck Spanntop Nova Combi Pull-back chuck

(l) Three (3) Clamping heads RD BZI HSW 40MM (Machinable) for Hainbuck Spanntop Nova Combi Pull-back chuck

(m) One (1) Hainbuck Jaw Module RD

(n) Three (3) Soft Jaws for Hainbuck Jaw Module RD

(o) One (1) Hard Jaw for Hainbuck Jaw Module RD

(p) One (1) Hard Jaw for Hainbuck Jaw Module RD

(q) One (1) Hard Jaw for Hainbuck Jaw Module RD

(r) One (1) Hard Jaw for Hainbuck Jaw Module RD

(s) One (1) Hard Jaw for Hainbuck Jaw Module RD

(t) One (1) Hainbuck Face Driver Adaptation RD

(u) One (1) Hainbuck Manual Changing Fixture

3.1.37. Power Requirements:

3.1.37.1. The machine must have a disconnect box mounted on a nearby wall or column that complies with all applicable codes.

3.1.37.2. The existing disconnect box used for the Primero PL-1840 lathe (Figure 3-2) may be re-used by the Contactor for the installation of the new machine if it is compatible with the power requirements of the new machine. This connection currently provides 550 VAC / 3 Phase / 60 Hz power to the existing lathe through a transformer that converts the power to 208-240 VAC / 3 Phase / 50-60 Hz, 50 amp for use by this machine. If this disconnect box is not used by the Contractor for the installation of the new machine, then the Contractor must remove and dispose of this box and provide a new box that is compatible with the Contractor's machine.

Figure 3-2 Existing Disconnect Box used for the Primero PL-1840 Lathe

3.1.37.3. The existing transformer currently used for the Primero PL-1840 lathe is hung from the ceiling due to the limited floor space available (Figure 3-3). If a transformer is required for the new machine, then the Contractor must supply and install the necessary transformer in a similar manner as the existing transformer (i.e. to be hung from the ceiling).

Figure 3-3 Existing Ceiling-Mounted Transformer used for the Primero PL-1840 Lathe

3.1.37.4. The new machine must have an electrical plug connection that complies with all applicable codes (e.g. see Figure 3-4).

Figure 3-4 Electrical Power Plug used with an existing CNC Milling Machine

3.2. Tasks

3.2.1. Trade-in and Removal of Existing Milling Machines

3.2.1.1. The sale and installation of the new Equipment must include a trade-in credit for the existing Barer Precision Lathe.

3.2.1.2. The Contractor must decommission, prepare for transport, and remove the existing machine located in QETE's Mechanical Design Workshop located in the National Printing Bureau (NPB) building, 45 Sacré-Coeur Blvd, Gatineau, Québec, in Room C-2119.

3.2.1.3. In the disassembly process, the Contractor must perform all disconnections from the building electrical and air supply.

3.2.1.4. The Contractor must disconnect, remove and dispose of the existing transformer that is used with the Barer Precision Lathe.

3.2.1.5. The Contractor must prepare the machine for transport.

3.2.1.6. In the removal process, the Contractor must transport the existing Barer Precision Lathe from the second floor Mechanical Design Workshop (MDW) to the NPB shipping dock utilizing the building freight elevator.

3.2.1.7. The Contractor must load the existing Barer Precision Lathe onto the Contractor`s delivery vehicle.

3.2.1.8. A Contractor's authorized Factory Service Representatives (FSRs) must be on site during the removal of trade-in equipment and delivery of the new equipment.

3.2.1.9. The Contractor must provide qualified heavy equipment movers to move adjacent machines, if required, to clear a path for the removal of trade-in equipment and the delivery of the new Equipment. Any adjacent machines that are moved to clear a path must be returned to their

original location as soon as possible after the new machine has been moved to its final installation locations.

3.2.1.10. The Contractor must provide an electrician certified to work in the Province of Québec to move any lighting, electrical wires and connections, if required, to clear a path for the removal of trade-in equipment and the delivery of the new Equipment. Any lighting, electrical wires or connections that are moved to clear a path must be returned to their original location as soon as possible after the new machines have been moved to their final installation locations.

3.2.1.11. The following dimensions associated with the NPB building are provided to assist the Contractor with planning the transport of equipment:

(a) Freight elevator door width: 224.79 cm (88.5 inches)

(b) Freight elevator door height: 306.07 cm (120.5 inches)

(c) Freight elevator depth 431.80 cm (170.0 inches)

(d) Freight elevator weight capacity: 5,443 kg (12,000 lbs)

(e) Minimum height of the passageway from the current machine locations to the corridor outside of the MDW : 152.4 cm (60 inches)

3.2.1.12. The Contractor must dispose of all debris resulting from the disassembly and removal of the existing Barer Precision Lathe.

3.2.2. Installation and Commissioning

3.2.2.1. The Contractor must install the Equipment in QETE's facilities at the National Printing Bureau building in Room 2-C119 (second floor) at 45 Sacré-Coeur Blvd, Gatineau, Québec in the Mechanical Design Workshop.

3.2.2.2. The Equipment must be transported by the Contractor from the Contractor's delivery vehicle from the NPB loading dock to the Mechanical Design Workshop located on the second floor utilizing the building freight elevator. The same dimensions provided above for the removal of the old equipment apply for the transport of the new Equipment to their installation locations.

3.2.2.3. All cables associated with the Equipment must be connected and retained using fasteners or other means to ensure mechanical and electrical integrity of the connection while allowing ease of disconnection for servicing.

3.2.2.4. In the installation process, the Contractor must make and test all connections to the building electrical and air supplies.

3.2.2.5. The Contractor must perform all actions needed to commission the Equipment for operational use by QETE staff. Commissioning includes conducting all visual inspections, calibration, system checks, tests and any other activities specified by the manufacturer's standard operating procedures for commissioning new equipment to ensure that the Equipment will function in accordance with the requirements of this SOW as well as the manufacturer's specifications.

3.2.2.6. The installation, levelling, securing, initial start-up, and calibration of Equipment must be performed by the Contractor's authorized Factory Service Representatives (FSRs).

3.2.2.7. The Contractor must supply all tools and supplies needed by the Contractor's FSRs to complete the installation.

3.2.2.8. The Contractor must dispose of all packaging used in the transport of the Equipment to the installation location and all debris resulting from the installation.

3.2.3. Training

3.2.3.1. The Contractor must provide on-site training in English on the proper operation and maintenance of the Equipment for up to six personnel.

3.2.3.2. The Contractor must provide paper and electronic copies, in English, of all training materials provided and presented to the personnel who receive the training.

3.2.3.3. Training will consist of a hands-on tutorial, which must include, at a minimum, the following topics:

(a) Equipment Start-up

(b) Equipment Shut-down

(c) Equipment Orientation

(d) Equipment Safety

(e) Operation

(f) Programming

(g) Maintenance

3.2.3.4. The hands-on tutorial will be conducted:

(a) using the delivered Equipment after installation, testing and commissioning has been successfully completed by the Contractor;

(b) using QETE supplied test scenarios and samples;

3.2.3.5. The Contractor must provide a Training Summary Report that identifies all students who participated in the training, the date(s) and location(s) of the training, and the instructor(s).

3.2.3.6. The Contractor must provide a Training Certificate for each student that identifies the student`s name and organization, the training activity, the date(s) and location(s) of the training, the approved training organization's name, logo, and authorized signature.

3.2.4. Service Support

3.2.4.1. Availability – The Contractor must:

(a) certify that full service support and replacement parts are available for a period of 15 years following the date of delivery of the Equipment; and

(b) without limiting the generality of Section 3.2.4.1.(a), provide Canada with a one year written notification prior to the Equipment parts no longer being available, and failing such notification, the Contractor must provide Canada sufficient notice to ensure that Canada may purchase the parts that are no longer available.

3.2.4.2. Service Desk – A support service desk function must be provided to help Canada in answering questions with respect to the Equipment that includes, at a minimum:

(a) telephone technical support between the hours of 08:00 and 17:00 (Eastern Time), Monday to Friday, excluding public holidays;

(b) e-mail technical support with a response within 48 hours excluding weekends and public holidays; and

(c) on-line help resources, including contact information, product information and documentation downloads (e.g. product brochures, technical manuals).

3.2.4.3. Product Notifications – Canada must be advised in writing as soon as reasonably possible in the event of:

(a) any safety-related product recalls or advisories, component defects, and other similar events;

(b) any security vulnerabilities that are subsequently discovered; and

(c) any hidden or previously unknown defects that are subsequently discovered that may adversely affect product performance and/or functionality.

3.2.4.4. Software Support Period – The Contractor must provide Maintenance Releases for a period of 15 years from the Contract Award date.

3.2.4.5. Equipment Certifications

(a) Inspection Reports – The Contractor must provide an Inspection Report for each machine, signed by an authorized representative of the manufacturer. This report may be in a Contractor-defined format.

(b) Certificate of Conformance – The Contractor must provide a Certificate of Conformance to attest that the delivered Equipment has been manufactured according to the Contractor`s published specifications and has been verified to function as designed. The Certificate must identify the location and date of completion of manufacturing and must be signed by an authorized representative of the manufacturer.

(c) Statement of Continued Production and Support – The Contractor must provide a Statement of Continued Production and Support to attest that the equipment is neither manufacturer-discontinued nor is there an intent to discontinue the manufacturing of the Equipment within two (2) years. The Statement must also attest that the Contractor will continue to provide technical support and spare parts supply for a minimum of 15 years following delivery of the Equipment.

3.2.4.6. Equipment Documentation – The Contractor must provide the following documentation in support of the delivered Equipment

(a) Machine User and Maintenance Manual – provides detailed information about the functionality and operation of the Equipment and the care and maintenance of the Equipment that is normally performed by the user.

(b) Programming Manual – provides detailed information about programming the machine.

(c) Maintenance Manual – provides detailed information and instructions for preventive and corrective maintenance.

3.3. Constraints

3.3.1. The Contractor must perform all on-site work to deliver, install, test, and commission the Equipment and to train QETE personnel during normal business hours for the Manufacturing Design Workshop (Monday to Friday, 07:00 to 16:00).

3.4. Support Provided by Canada

3.4.1. Canada will provide the Contractor with:

(a) Access to the job site;

(b) Access to electric power and air line hookups; and

(c) On-site parking at the Contractor’s expense.

3.5. Time Frame and Delivery Dates

3.5.1. Equipment delivery – six (6) weeks after contract award.

3.5.2. Equipment documentation – at the time of Equipment delivery.

3.5.3. Certifications and Inspection Reports – at the time of Equipment delivery.

3.5.4. De-commissioning and Removal Services – within two (2) weeks of Equipment delivery at a mutually agreeable date to be coordinated with the Technical Authority.

3.5.5. Installation and commissioning of Equipment – within one (1) week of de-commissioning and removal of existing machine at a mutually agreeable date to be coordinated with the Technical Authority. It is preferred that the installation and commissioning of the new machine commence

immediately following the de-commissioning and removal of the old machine so as to minimize the disruption to the workshop.

3.5.6. Training – within five (5) days of Equipment commissioning and to be coordinated with the Technical Authority when planning for the installation of the Equipment.

3.6. Contractor Qualifications

3.6.1. Personnel delivering training must be factory-trained representatives or must be approved as qualified trainers by the Original Equipment Manufacturer.

4. DELIVERABLES

4.1. Equipment – The Contractor must provide the following Equipment deliverables:

4.1.1. Live Tooling Slant Bed Lathe: Quantity of one (1)

4.1.2. Post Processors compatible with the following software:

(d) MasterCAM X8 version 0.26.0.139

(e) MasterCAM X9 version 18.0.11898.0

(f) GibbsCAM version 10.3.16 (64 bit)

4.1.3. Accessories:

(a) One (1) Manual Tool Setter

(b) One (1) Thru-turret/tool coolant – High Pressure 300 psi Coolant pump including 20 psi pump

(c) One (1) Hainbuck Spanntop Nova Combi Pull-back chuck

(d) One (1) set of Clamping heads RD BZI 4-65MM (Round) for Hainbuck Spanntop Nova Combi Pull-back chuck

(e) One (1) set of Clamping heads RD BZI 8-56MM (Hex) for Hainbuck Spanntop Nova Combi Pull-back chuck

(f) One (1) set of Clamping heads RD BZIG 3-65MM (Round) for Hainbuck Spanntop Nova Combi Pull-back chuck

(g) One (1) set of Clamping heads RD BZIG 7-56MM (Hex) for Hainbuck Spanntop Nova Combi Pull-back chuck

(h) Three (3) Clamping heads RD BZI HSW 3MM (Machinable) for Hainbuck Spanntop Nova Combi Pull-back chuck

(i) Three (3) Clamping heads RD BZI HSW 5MM (Machinable) for Hainbuck Spanntop Nova Combi Pull-back chuck

(j) Three (3) Clamping heads RD BZI HSW 8MM (Machinable) for Hainbuck Spanntop Nova Combi Pull-back chuck

(k) Three (3) Clamping heads RD BZI HSW 20MM (Machinable) for Hainbuck Spanntop Nova Combi Pull-back chuck

(l) Three (3) Clamping heads RD BZI HSW 40MM (Machinable) for Hainbuck Spanntop Nova Combi Pull-back chuck

(m) One (1) Hainbuck Jaw Module RD

(n) Three (3) Soft Jaws for Hainbuck Jaw Module RD

(o) One (1) Hard Jaw for Hainbuck Jaw Module RD

(p) One (1) Hard Jaw for Hainbuck Jaw Module RD

(q) One (1) Hard Jaw for Hainbuck Jaw Module RD

(r) One (1) Hard Jaw for Hainbuck Jaw Module RD

(s) One (1) Hard Jaw for Hainbuck Jaw Module RD

(t) One (1) Hainbuck Face Driver Adaptation RD

(u) One (1) Hainbuck Manual Changing Fixture

4.2. Services – The Contractor must provide the following service deliverables:

4.2.1. De-commissioning and Removal Services

4.2.2. Installation and Commissioning Services

4.2.3. Training Services

4.2.4. Software Support Services

4.3. Documentation – The Contractor must provide the following documents to the Technical Authority:

4.3.1. Inspection Report: Quantity of one (1)

4.3.2. Certificate of Calibration: Quantity of one (1)

4.3.3. Statement of Compliance: Quantity of one (1)

4.3.4. Statement of Continued Production and Support : Quantity of one (1)

4.3.5. Machine User and Maintenance Manual: Quantity of one (1)

4.3.6. Training Material: Quantity of one (1) per student

4.4. Format for Documentation

4.4.1. Equipment documentation and reports may be provided in Contractor format.

4.4.2. Unless otherwise specified, certificates and compliance statements may be provided in Contractor format.

4.4.3. Electronic copies of deliverable documents must be delivered on CD/DVD media or by e-mail to the Technical Authority.

4.4.4. Document files provided in electronic format must provide users with the capability to search documents (e.g. keyword search).

4.4.5. Unless otherwise specified, document files must be provided in PDF format.

ANNEX "B"

MANDATORY TECHNICAL EVALUATION CRITERIA

Live Tooling Slant Bed Lathe

1. General Instructions

The Bid must meet the mandatory technical criteria specified below. Bidders must provide the necessary documentation to support compliance with the requirements, including technical data sheets, specifications, brochures and/or other relevant technical documentation describing the equipment offered and demonstrating compliancy. Each mandatory technical criterion should be addressed separately and in the order presented below.

2. Mandatory Technical Criteria

No.	Mandatory Technical Criteria	Supporting Evidence Required
M1	Bidders must propose equipment that must not be a prototype or test unit, but standard proven equipment of the manufacturer and contains reliable state-of-the-art technology. In order to demonstrate this requirement, Bidders must provide with their bid, a list of at least three (3) valid projects identifying customers who have recently purchased the equipment. For a project to be considered valid, it is necessary that the equipment specified in the project: a) be a similar product (i.e. meets all technical specifications described in Section 3.1.2, 3.1.4 to 3.1.36 of the Statement of Work); and b) Was sold in the previous 24 months of the Solicitation closing date.	Bidders must submit with their bid, the following information for each project: a) the brand name and model of the equipment sold; b) the date of sale; c) technical details of the equipment sold; d) a description of how the equipment sold meets the requirements of Criterion M1; and e) customer contact information, which should include organization name, organization address, contact name, contact telephone number, and contact e-mail address. The provided information may be verified with the Bidder`s customer to confirm its accuracy. If the information verification does not match the requirements, then the Bid may be declared non responsive.
M2	The Bidder must be the OEM or an approved supplier of the OEM.	Bidders must provide a statement confirming that they are the OEM or if the Bidder is not the OEM, then the Bidder must provide a letter from the OEM confirming that the Bidder is an approved supplier of the OEM.
M3	Bidders must provide supporting evidence in their proposal to demonstrate that their proposed solution meets the mandatory requirements specified in the Mandatory Requirements Compliancy Matrix.	Bidders should complete the Mandatory Requirements Compliancy Matrix.

3. Mandatory Requirements Compliancy Matrix

Where *Provide Proposal Reference or Description* is indicated for the Bidder's response, Bidders must either provide a reference to their technical proposal where information can be found that clearly shows how the requirement is met by the proposed solution, or provide a description of how the requirement is met. **Where the Bidder's technical documentation does not clearly demonstrate that the equipment offered will meet a specific requirement, the Bidder's proposal must provide additional descriptions of how the requirement will be met by the proposed solution**.

Where *Provide Statement of Compliance* is indicated for the Bidder's response, Bidders must commit to complying with the requirement during the performance of the work. Bidders may indicate "Yes" in the Compliant column, which will be a commitment to comply, or they may provide a statement committing to comply.

MANDATORY REQUIREMENTS COMPLIANCY MATRIX				
SOW Para. #	**MANDATORY REQUIREMENT**	**COMPLIANT**		**RESPONSE REQUIREMENT**
		Yes	**No**	
3.	REQUIREMENTS			
3.1.	Scope of Work			
3.1.1.	The scope of work includes: (e) Decommission, disconnect, removal, and trade-in of the existing precision lathe machine (identified in Figure 3-1 and in Table 3-1); (f) Delivery, installation, testing and commissioning of a new live tooling slant bed lathe with both computer numerical control (CNC) and manual control capabilities; (g) Site clean-up and removal and disposal of all packaging and debris; and (h) Training for up to six QETE personnel on the new Equipment.	☐	☐	*Provide Statement of Compliance.*
3.1.2.	The Equipment is defined as one (1) Computer Numerical Controlled (CNC), Live Tooling 30 Degree Slant Bed Lathe with Milling and Y-Axis.	☐	☐	*Provide Statement of Compliance*
3.1.3.	General Requirements:			
3.1.3.1.	The Contractor must provide transport of the old equipment from its current location and load the equipment onto the Contractor's vehicle for disposal, as well as provide transport of new Equipment from the Contractor's delivery vehicle to the installation location.	☐	☐	*Provide Statement of Compliance*
3.1.3.2.	All electrical components of the Equipment must be certified or approved for use in accordance with the Canadian Electrical Code, Part 1, before delivery, by a certification organization accredited by the Standards Council of Canada. Accordingly, electrical components of the Equipment must be Canadian Standards Association (CSA) compliant and must include a CSA certification mark applicable to Canada on a sticker on the delivered item(s).	☐	☐	*Provide Statement of Compliance*

MANDATORY REQUIREMENTS COMPLIANCY MATRIX				
SOW Para. #	**MANDATORY REQUIREMENT**	**COMPLIANT**		**RESPONSE REQUIREMENT**
		Yes	**No**	
3.1.3.3.	The Equipment must meet the more stringent of the technical specifications stated in this Statement of Work or the manufacturer's published specifications.	☐	☐	*Provide Statement of Compliance*
3.1.3.4.	The Equipment must meet the manufacturer's published specifications for any functional or performance parameter not specified in this Statement of Work.	☐	☐	*Provide Statement of Compliance*
3.1.4.	The machine must be provided with the following features:	☐	☐	*Provide Proposal Reference or Description*
(a)	Servo drives and motors	☐	☐	*Provide Proposal Reference or Description*
(b)	Motor mounting castings and hardware	☐	☐	*Provide Proposal Reference or Description*
(c)	30 Degree Slant Bed	☐	☐	*Provide Proposal Reference or Description*
(d)	Y-axis & Milling function	☐	☐	*Provide Proposal Reference or Description*
(e)	Indexable tool turret: Minimum 15 positions	☐	☐	*Provide Proposal Reference or Description*
(f)	Programmable Swing Bucket Parts Catcher: Minimum size 60mm/2.36in, 145mm/5.71 lg., 3kg/4.41lbs.)	☐	☐	*Provide Proposal Reference or Description*
(g)	Right side/exit Hinge Type Chip Conveyor	☐	☐	*Provide Proposal Reference or Description*
(h)	Hydraulic Unit Capacity: Minimum 34L/8.98 gal.	☐	☐	*Provide Proposal Reference or Description*
(i)	Pressure Switch for Hydraulic Power Fault	☐	☐	*Provide Proposal Reference or Description*
(j)	Automatic Lubrication System	☐	☐	*Provide Proposal Reference or Description*
(k)	Lubrication Failure Alarm	☐	☐	*Provide Proposal Reference or Description*
(l)	Lubrication Unit Capacity: Minimum 1L/0.26gal.	☐	☐	*Provide Proposal Reference or Description*
(m)	Coolant Unit Capacity: Minimum 80L/21.13gal.	☐	☐	*Provide Proposal Reference or Description*
(n)	Fanuc Oi-TF CNC control	☐	☐	*Provide Proposal Reference or Description*
(o)	Separate Operator’s Panel	☐	☐	*Provide Proposal Reference or Description*
(p)	Spindle RPM Meter	☐	☐	*Provide Proposal Reference or Description*
(q)	Load Meter	☐	☐	*Provide Proposal Reference or Description*
(r)	Spindle Jog	☐	☐	*Provide Proposal Reference or Description*

MANDATORY REQUIREMENTS COMPLIANCY MATRIX				
SOW Para. #	**MANDATORY REQUIREMENT**	**COMPLIANT**		**RESPONSE REQUIREMENT**
		Yes	**No**	
(s)	Memory Protect Key	☐	☐	*Provide Proposal Reference or Description*
(t)	Safety Interlock for Chucking failure	☐	☐	*Provide Proposal Reference or Description*
(u)	Controlled Axes, 4 axes (X, Z, C, Y)	☐	☐	*Provide Proposal Reference or Description*
(v)	Simultaneously Controlled Axes: 4 axes (X, Z, C, Y)	☐	☐	*Provide Proposal Reference or Description*
(w)	Console and encoder mounting hardware	☐	☐	*Provide Proposal Reference or Description*
(x)	Machine specific bracketry	☐	☐	*Provide Proposal Reference or Description*
(y)	Halogen or LED work light	☐	☐	*Provide Proposal Reference or Description*
(z)	Machine level bolts and pads	☐	☐	*Provide Proposal Reference or Description*
(aa)	Chip tank and coolant pump	☐	☐	*Provide Proposal Reference or Description*
(bb)	Coolant piping at upper of spindle	☐	☐	*Provide Proposal Reference or Description*
(cc)	Machine guards with interlocks	☐	☐	*Provide Proposal Reference or Description*
(dd)	Chuck open/close foot switch	☐	☐	*Provide Proposal Reference or Description*
(ee)	Fixed Air Blow	☐	☐	*Provide Proposal Reference or Description*
(ff)	USB, Ethernet, and memory card interface (input/output)	☐	☐	*Provide Proposal Reference or Description*
(gg)	One (1) Kitagawa 8” 3-Jaw Hydraulic Chuck, type BB-08A066	☐	☐	*Provide Proposal Reference or Description*
(hh)	One (1) set of Hard Jaws for Kitagawa 8” 3-Jaw Hydraulic Chuck	☐	☐	*Provide Proposal Reference or Description*
(ii)	Five (5) sets of Soft Jaws for Kitagawa 8” 3-Jaw Hydraulic Chuck	☐	☐	*Provide Proposal Reference or Description*
(jj)	One (1) set of printed Operating Manuals, English	☐	☐	*Provide Proposal Reference or Description*
(kk)	One (1) set of printed Programming Manuals, English	☐	☐	*Provide Proposal Reference or Description*
(ll)	One (1) set of printed Maintenance Manuals, English	☐	☐	*Provide Proposal Reference or Description*
(mm)	One (1) set of electronic Operating Manuals, English	☐	☐	*Provide Proposal Reference or Description*
(nn)	One (1) set of electronic Programming Manuals, English	☐	☐	*Provide Proposal Reference or Description*
(oo)	One (1) set of electronic Maintenance Manuals, English	☐	☐	*Provide Proposal Reference or Description*
3.1.5.	The machine must be provided with the following input command capabilities:	☐	☐	*Provide Proposal Reference or Description*

MANDATORY REQUIREMENTS COMPLIANCY MATRIX				
SOW Para. #	**MANDATORY REQUIREMENT**	**COMPLIANT**		**RESPONSE REQUIREMENT**
		Yes	**No**	
(a)	Least Input Increment: 0.001 mm/0.0001 in. (X diameter)	☐	☐	*Provide Proposal Reference or Description*
(b)	Least Command Increment: X: 0.0005mm, Z: 0.001 mm	☐	☐	*Provide Proposal Reference or Description*
(c)	Absolute/Incremental Programming: X, Z, C, Y / U, W, H, V	☐	☐	*Provide Proposal Reference or Description*
(d)	Standard Decimal Input	☐	☐	*Provide Proposal Reference or Description*
(e)	Inch/Metric Conversion G20/G21	☐	☐	*Provide Proposal Reference or Description*
(f)	Programmable Data Input G10	☐	☐	*Provide Proposal Reference or Description*
3.1.6.	The machine must be provided with the following interpolation capabilities:	☐	☐	*Provide Proposal Reference or Description*
(a)	Positioning G00	☐	☐	*Provide Proposal Reference or Description*
(b)	Linear Interpolation G01	☐	☐	*Provide Proposal Reference or Description*
(c)	Circular Interpolation G02 / 03, CW / CCW	☐	☐	*Provide Proposal Reference or Description*
(d)	Polar Coordinate Interpolation G12.1	☐	☐	*Provide Proposal Reference or Description*
(e)	Cylindrical Interpolation – G07.1	☐	☐	*Provide Proposal Reference or Description*
3.1.7.	The machine must be provided with the following feed functions:	☐	☐	*Provide Proposal Reference or Description*
(a)	Cutting Feed – Feed mm/min	☐	☐	*Provide Proposal Reference or Description*
(b)	Cutting Feed – X-Axis: 1 – 7500mm/min, 0.04 – 295in/min minimum	☐	☐	*Provide Proposal Reference or Description*
(c)	Cutting Feed – Z-Axis: 1 – 4800mm/min, 0.04 – 177in/min minimum	☐	☐	*Provide Proposal Reference or Description*
(d)	Cutting Feed – mm/rev	☐	☐	*Provide Proposal Reference or Description*
(e)	Cutting Feed – 0.0001 – 450.0000mm/rev minimum	☐	☐	*Provide Proposal Reference or Description*
(f)	Cutting Feed – 0.000001 – 9.5in/rev minimum	☐	☐	*Provide Proposal Reference or Description*
(g)	Dual G04	☐	☐	*Provide Proposal Reference or Description*
(h)	Feed per Min / Feed per Revolution G98 / G99	☐	☐	*Provide Proposal Reference or Description*
(i)	Thread Cutting G32	☐	☐	*Provide Proposal Reference or Description*
(j)	Standard Thread Cutting Retract	☐	☐	*Provide Proposal Reference or Description*
(k)	Handle Feed Manual Pulse Generator x 1(0.001/0.01/0.1mm)	☐	☐	*Provide Proposal Reference or Description*

MANDATORY REQUIREMENTS COMPLIANCY MATRIX				
SOW Para. #	**MANDATORY REQUIREMENT**	**COMPLIANT**		**RESPONSE REQUIREMENT**
		Yes	**No**	
(l)	Standard Automatic Acceleration/Deceleration	☐	☐	*Provide Proposal Reference or Description*
(m)	Standard Linear Acceleration/Deceleration	☐	☐	*Provide Proposal Reference or Description*
(n)	Rapid Feed Override Low Range / 25 / 50 / 100%	☐	☐	*Provide Proposal Reference or Description*
(o)	Cutting Feed Override 0 - 150%	☐	☐	*Provide Proposal Reference or Description*
(p)	Look Ahead Control G08	☐	☐	*Provide Proposal Reference or Description*
3.1.8.	The machine must be provided with the following programming functions:	☐	☐	*Provide Proposal Reference or Description*
(a)	Minimum Part Program Storage Capacity 512 kbyte	☐	☐	*Provide Proposal Reference or Description*
(b)	Part Program Editing – Delete, Insert, Change	☐	☐	*Provide Proposal Reference or Description*
(c)	Standard Program Number Search	☐	☐	*Provide Proposal Reference or Description*
(d)	Standard Sequence Number Search	☐	☐	*Provide Proposal Reference or Description*
(e)	Standard Address Search	☐	☐	*Provide Proposal Reference or Description*
(f)	Number of Registered Programs 400	☐	☐	*Provide Proposal Reference or Description*
(g)	Program storage memory backed up by battery	☐	☐	*Provide Proposal Reference or Description*
(h)	Standard background editing	☐	☐	*Provide Proposal Reference or Description*
(i)	Standard DNC Operation Through Memory Card	☐	☐	*Provide Proposal Reference or Description*
(j)	Standard expanded program editing	☐	☐	*Provide Proposal Reference or Description*
(k)	Standard Program No. Search	☐	☐	*Provide Proposal Reference or Description*
(l)	Standard Multiple Program Simultaneous Editing	☐	☐	*Provide Proposal Reference or Description*
(m)	Standard Extended Part Program Editing	☐	☐	*Provide Proposal Reference or Description*
3.1.9.	The machine must meet the following C-Axis control specifications:	☐	☐	*Provide Proposal Reference or Description*
(a)	Numerically controlled C-axis	☐	☐	*Provide Proposal Reference or Description*
(b)	Simultaneously numerically controlled X, Y, C axis.	☐	☐	*Provide Proposal Reference or Description*
(c)	Least input increment: 0.001 deg.	☐	☐	*Provide Proposal Reference or Description*
(d)	Least command increment: 0.001 deg.	☐	☐	*Provide Proposal Reference or Description*
(e)	Maximum programmable dimension: +/- 999999.999˚	☐	☐	*Provide Proposal Reference or Description*

MANDATORY REQUIREMENTS COMPLIANCY MATRIX				
SOW Para. #	**MANDATORY REQUIREMENT**	**COMPLIANT**		**RESPONSE REQUIREMENT**
		Yes	**No**	
(f)	Absolute/Incremental Programming: C/H	☐	☐	*Provide Proposal Reference or Description*
(g)	Cutting feedrate: Per minute: C-axis: 1 to 4800 deg/min	☐	☐	*Provide Proposal Reference or Description*
(h)	Polar coordinate interpolation: G12.1	☐	☐	*Provide Proposal Reference or Description*
(i)	Cylindrical coordinate interpolation: G07.1	☐	☐	*Provide Proposal Reference or Description*
(j)	Available Stored Pitch Error Compensation	☐	☐	*Provide Proposal Reference or Description*
(k)	Available Milling Rigid Tapping	☐	☐	*Provide Proposal Reference or Description*
(l)	Available Polygonal Turning Function	☐	☐	*Provide Proposal Reference or Description*
(m)	Relative Position Encoder αiBZ sensor	☐	☐	*Provide Proposal Reference or Description*
3.1.10.	The machine must meet the following Y-Axis control specifications:	☐	☐	*Provide Proposal Reference or Description*
(a)	Additional numerically controlled axes: 2 axis: C, Y axes (total 4)	☐	☐	*Provide Proposal Reference or Description*
(b)	Simultaneously controlled X, Z, C axes	☐	☐	*Provide Proposal Reference or Description*
(c)	Least input increment: 0.001mm/0.0001 in, 0.001 deg.	☐	☐	*Provide Proposal Reference or Description*
(d)	Least command increment: Y: 0.001mm, C: 0.001 deg.	☐	☐	*Provide Proposal Reference or Description*
(e)	Maximum programmable dimension: +/- 999999.999mm / +/-39370.0787in, +/-999999.999 deg	☐	☐	*Provide Proposal Reference or Description*
(f)	Absolute/Incremental Programming: C, Y/H, V	☐	☐	*Provide Proposal Reference or Description*
(g)	C-Axis Cutting Feedrate: (Per minute) 1 to 4800 deg/min	☐	☐	*Provide Proposal Reference or Description*
(h)	Y-Axis Cutting Feedrate: (Per minute) 1 to 6000 deg/min, 0.01 to 236 in/rev	☐	☐	*Provide Proposal Reference or Description*
(i)	Cutting Feedrate Per Revolution: 0.0001 to 500.0000 mm/rev, 0.000001 to 9.999999 in/rev	☐	☐	*Provide Proposal Reference or Description*
(j)	Polar coordinate interpolation: G12.1	☐	☐	*Provide Proposal Reference or Description*
(k)	Cylindrical coordinate interpolation: G07.1	☐	☐	*Provide Proposal Reference or Description*
(l)	Available Stored Pitch Error Compensation	☐	☐	*Provide Proposal Reference or Description*
(m)	Available helical interpolation	☐	☐	*Provide Proposal Reference or Description*
(n)	Available Y-axis offset	☐	☐	*Provide Proposal Reference or Description*
(o)	Available milling rigid tapping	☐	☐	*Provide Proposal Reference or Description*

MANDATORY REQUIREMENTS COMPLIANCY MATRIX				
SOW Para. #	**MANDATORY REQUIREMENT**	**COMPLIANT**		**RESPONSE REQUIREMENT**
		Yes	**No**	
(p)	Available polygonal turning	☐	☐	*Provide Proposal Reference or Description*
(q)	Relative C-axis αiBZ sensor Position Encoder	☐	☐	*Provide Proposal Reference or Description*
(r)	Absolute Y-axis position pulse encoder	☐	☐	*Provide Proposal Reference or Description*
3.1.11.	The machine must be provided with the following operation and display capabilities:	☐	☐	*Provide Proposal Reference or Description*
(a)	Minimum 10 inch or larger high resolution LCD colour display	☐	☐	*Provide Proposal Reference or Description*
(b)	Keyboard: Separate type MDI unit with standard keys	☐	☐	*Provide Proposal Reference or Description*
(c)	Manual Data Input (MDI): Minimum available 511 characters	☐	☐	*Provide Proposal Reference or Description*
(d)	Standard run time display	☐	☐	*Provide Proposal Reference or Description*
(e)	Standard number of parts display	☐	☐	*Provide Proposal Reference or Description*
(f)	Standard clock function	☐	☐	*Provide Proposal Reference or Description*
3.1.12.	The machine must be provided with the following input/output (I/O) Device capabilities:	☐	☐	*Provide Proposal Reference or Description*
(a)	Built-in ETHERNET interface for communication port using a CAT 6/RJ-45 cable (10/100/1000 BASE-T) along with necessary network card for communication	☐	☐	*Provide Proposal Reference or Description*
(b)	Memory card input/output	☐	☐	*Provide Proposal Reference or Description*
(c)	USB memory device input/output	☐	☐	*Provide Proposal Reference or Description*
3.1.13.	The machine must be provided with the following S,T,M functions:	☐	☐	*Provide Proposal Reference or Description*
(a)	Spindle function: S-4 digit (direct designation)	☐	☐	*Provide Proposal Reference or Description*
(b)	Constant surface speed: G96/G97	☐	☐	*Provide Proposal Reference or Description*
(c)	Spindle speed fluctuation detection: G25/G26	☐	☐	*Provide Proposal Reference or Description*
(d)	Miscellaneous M functions: M-4 digit	☐	☐	*Provide Proposal Reference or Description*
3.1.14.	The machine must be provided with the following tool offset capabilities:	☐	☐	*Provide Proposal Reference or Description*
(a)	Tool geometry and wear offsets: T-4 digit	☐	☐	*Provide Proposal Reference or Description*
(b)	Tool nose R compensation: G41, G42/G40	☐	☐	*Provide Proposal Reference or Description*

MANDATORY REQUIREMENTS COMPLIANCY MATRIX				
SOW Para. #	**MANDATORY REQUIREMENT**	**COMPLIANT**		**RESPONSE REQUIREMENT**
		Yes	**No**	
(c)	Minimum number of tool offset pairs: 64	☐	☐	*Provide Proposal Reference or Description*
3.1.15.	The machine must be provided with the following work coordinate system capabilities:	☐	☐	*Provide Proposal Reference or Description*
(a)	Standard manual return to reference point	☐	☐	*Provide Proposal Reference or Description*
(b)	Automatic return to reference point: G28	☐	☐	*Provide Proposal Reference or Description*
(c)	Return to 2nd reference point: G30	☐	☐	*Provide Proposal Reference or Description*
(d)	3rd, 4th reference point: G30 P3, G30 P4	☐	☐	*Provide Proposal Reference or Description*
(e)	Reference point return check: G27	☐	☐	*Provide Proposal Reference or Description*
(f)	Standard automatic coordinate system setting	☐	☐	*Provide Proposal Reference or Description*
(g)	Coordinate system shift: G10 P0	☐	☐	*Provide Proposal Reference or Description*
(h)	Work coordinate system: G52, G53, G54 to G59	☐	☐	*Provide Proposal Reference or Description*
3.1.16.	The machine must be provided with the following operation assist functions:	☐	☐	*Provide Proposal Reference or Description*
(a)	Standard single block	☐	☐	*Provide Proposal Reference or Description*
(b)	Standard optional stop	☐	☐	*Provide Proposal Reference or Description*
(c)	Standard optional stop skip	☐	☐	*Provide Proposal Reference or Description*
(d)	Standard dry run	☐	☐	*Provide Proposal Reference or Description*
(e)	Standard Chuck OD/ID changeover	☐	☐	*Provide Proposal Reference or Description*
(f)	Standard machine lock	☐	☐	*Provide Proposal Reference or Description*
(g)	Standard program check	☐	☐	*Provide Proposal Reference or Description*
(h)	Standard manual absolute	☐	☐	*Provide Proposal Reference or Description*
(i)	Standard in/out	☐	☐	*Provide Proposal Reference or Description*
3.1.17.	The machine must be provided with the following programming assist functions:	☐	☐	*Provide Proposal Reference or Description*
(a)	Standard direct R designation for circular interpolation	☐	☐	*Provide Proposal Reference or Description*
(b)	Standard direct input of dimension data	☐	☐	*Provide Proposal Reference or Description*

MANDATORY REQUIREMENTS COMPLIANCY MATRIX				
SOW Para. #	**MANDATORY REQUIREMENT**	**COMPLIANT**		**RESPONSE REQUIREMENT**
		Yes	**No**	
(c)	Standard direct input of chamfering & corner R designation	☐	☐	*Provide Proposal Reference or Description*
(d)	Canned cycle: G90, G92, G94	☐	☐	*Provide Proposal Reference or Description*
(e)	Multiple repetitive cycle: G70 to G76	☐	☐	*Provide Proposal Reference or Description*
(f)	Multiple repetitive cycle II: G71, G72	☐	☐	*Provide Proposal Reference or Description*
(g)	Canned cycle for drilling : G80 to G89	☐	☐	*Provide Proposal Reference or Description*
(h)	Polar coordinate interpolation: G12.1	☐	☐	*Provide Proposal Reference or Description*
(i)	Cylindrical coordinate interpolation: G07.1	☐	☐	*Provide Proposal Reference or Description*
(j)	Standard subprogram	☐	☐	*Provide Proposal Reference or Description*
(k)	Standard help function	☐	☐	*Provide Proposal Reference or Description*
(l)	Standard custom macro common values: After addition: #100 to #199, #500 to #999 available	☐	☐	*Provide Proposal Reference or Description*
(m)	Available FS10/11	☐	☐	*Provide Proposal Reference or Description*
3.1.18.	The machine must be provided with the following program support capabilities:	☐	☐	*Provide Proposal Reference or Description*
(a)	Thread Cutting Cycle Retract	☐	☐	*Provide Proposal Reference or Description*
(b)	Rigid Tap Function	☐	☐	*Provide Proposal Reference or Description*
(c)	Standard Circular Interpolation R Programming	☐	☐	*Provide Proposal Reference or Description*
(d)	Helical Interpolation	☐	☐	*Provide Proposal Reference or Description*
(e)	Drilling Canned Cycle	☐	☐	*Provide Proposal Reference or Description*
(f)	Direct Drawing dimension Programming or Chamfering and Corner R	☐	☐	*Provide Proposal Reference or Description*
(g)	Canned Cycle G90, G92, G94	☐	☐	*Provide Proposal Reference or Description*
(h)	Multiple Repetitive Canned Cycle G70 – G76	☐	☐	*Provide Proposal Reference or Description*
(i)	Multiple Repetitive Canned Cycle II G71, G72	☐	☐	*Provide Proposal Reference or Description*
(j)	Canned Cycle for Drilling G80 – G89	☐	☐	*Provide Proposal Reference or Description*
(k)	Standard Sub Program	☐	☐	*Provide Proposal Reference or Description*

MANDATORY REQUIREMENTS COMPLIANCY MATRIX				
SOW Para. #	**MANDATORY REQUIREMENT**	**COMPLIANT**		**RESPONSE REQUIREMENT**
		Yes	**No**	
(l)	Standard Help Function	☐	☐	*Provide Proposal Reference or Description*
(m)	Standard Custom Macro	☐	☐	*Provide Proposal Reference or Description*
(n)	Standard Work Navigation (Torque Type)	☐	☐	*Provide Proposal Reference or Description*
(o)	Standard Tool Monitoring Function	☐	☐	*Provide Proposal Reference or Description*
(p)	Standard Excessive/Abnormal Load Detection	☐	☐	*Provide Proposal Reference or Description*
(q)	Standard navigator for part and datum point recognition	☐	☐	*Provide Proposal Reference or Description*
(r)	Manual Guide I Function Conversational Programming	☐	☐	*Provide Proposal Reference or Description*
(s)	Background Editing Function	☐	☐	*Provide Proposal Reference or Description*
(t)	Programmable Parameter Entry	☐	☐	*Provide Proposal Reference or Description*
(u)	Direct Drawing Dimensions Programming	☐	☐	*Provide Proposal Reference or Description*
(v)	Look Ahead Control	☐	☐	*Provide Proposal Reference or Description*
(w)	Graphic Display for Tool Path	☐	☐	*Provide Proposal Reference or Description*
(x)	Work Piece Co-ordinate	☐	☐	*Provide Proposal Reference or Description*
(y)	Run Time Display	☐	☐	*Provide Proposal Reference or Description*
(z)	Parts Number Display	☐	☐	*Provide Proposal Reference or Description*
(aa)	Expanded Part Programming Editing	☐	☐	*Provide Proposal Reference or Description*
(bb)	Custom Macro B	☐	☐	*Provide Proposal Reference or Description*
(cc)	Standard Backlash Compensation for mechanical error	☐	☐	*Provide Proposal Reference or Description*
3.1.19.	The machine must be provided with the following safety and machinability capabilities:	☐	☐	*Provide Proposal Reference or Description*
(a)	Standard stroke limit	☐	☐	*Provide Proposal Reference or Description*
(b)	Standard chuck tailstock barrier - stored stroke check	☐	☐	*Provide Proposal Reference or Description*
(c)	Over travel detection	☐	☐	*Provide Proposal Reference or Description*
(d)	I/O signal Self-diagnosis function	☐	☐	*Provide Proposal Reference or Description*
(e)	Fully enclosed, dust proof enclosure construction	☐	☐	*Provide Proposal Reference or Description*

MANDATORY REQUIREMENTS COMPLIANCY MATRIX				
SOW Para. #	**MANDATORY REQUIREMENT**	**COMPLIANT**		**RESPONSE REQUIREMENT**
		Yes	**No**	
3.1.20.	The machine must be provided with the following control software capabilities to support machining, operation, and automation functions:	☐	☐	*Provide Proposal Reference or Description*
(a)	Tool Counter	☐	☐	*Provide Proposal Reference or Description*
(b)	Spare tool index	☐	☐	*Provide Proposal Reference or Description*
(c)	Work counter	☐	☐	*Provide Proposal Reference or Description*
(d)	Load Monitor	☐	☐	*Provide Proposal Reference or Description*
(e)	Software work pusher	☐	☐	*Provide Proposal Reference or Description*
(f)	Quick offset input	☐	☐	*Provide Proposal Reference or Description*
(g)	Quantitative offset	☐	☐	*Provide Proposal Reference or Description*
(h)	Involute curve machining cycle	☐	☐	*Provide Proposal Reference or Description*
(i)	Arbitrary axis torque limit	☐	☐	*Provide Proposal Reference or Description*
(j)	Modal G code initialization	☐	☐	*Provide Proposal Reference or Description*
(k)	Work co-ordinate system renewal	☐	☐	*Provide Proposal Reference or Description*
(l)	Bar feeder cycles and etc.	☐	☐	*Provide Proposal Reference or Description*
(m)	Idling operation	☐	☐	*Provide Proposal Reference or Description*
3.1.21.	The machine must be provided with the following control software capabilities to support NC program edit and creation based on FANUC Manual Guide i functions:	☐	☐	*Provide Proposal Reference or Description*
(a)	Turning cycle creation	☐	☐	*Provide Proposal Reference or Description*
(b)	Milling machining cycle creation	☐	☐	*Provide Proposal Reference or Description*
(c)	3-dimentional machining cycle creation	☐	☐	*Provide Proposal Reference or Description*
(d)	Graphic tool path drawing	☐	☐	*Provide Proposal Reference or Description*
(e)	Process edit	☐	☐	*Provide Proposal Reference or Description*
(f)	Fixed form sentence menu selecting	☐	☐	*Provide Proposal Reference or Description*
(g)	NC statement edit (cut, copy, paste)	☐	☐	*Provide Proposal Reference or Description*

MANDATORY REQUIREMENTS COMPLIANCY MATRIX				
SOW Para. #	**MANDATORY REQUIREMENT**	**COMPLIANT**		**RESPONSE REQUIREMENT**
		Yes	**No**	
(h)	Automatic determination of cutting conditions	☐	☐	*Provide Proposal Reference or Description*
(i)	Conversational programming of fixed form sentences	☐	☐	*Provide Proposal Reference or Description*
3.1.22.	Software Compatibility – The machine must be compatible with the following versions of MasterCAM X8 and X9 software and GibbsCAM software:	☐	☐	*Provide Proposal Reference or Description*
(a)	MasterCAM X8 version 0.26.0.139	☐	☐	*Provide Proposal Reference or Description*
(b)	MasterCAM X9 version 18.0.11898.0	☐	☐	*Provide Proposal Reference or Description*
(c)	GibbsCAM version 10.3.16 (64 bit)	☐	☐	*Provide Proposal Reference or Description*
3.1.23.	The machine must be provided working Post Processors for the software identified in paragraph 3.1.22 above.	☐	☐	*Provide Proposal Reference or Description*
3.1.24.	The machine must be provided with the following capacity capabilities:	☐	☐	*Provide Proposal Reference or Description*
(a)	Minimum Swing Over Bed: 390mm / 15.35 in	☐	☐	*Provide Proposal Reference or Description*
(b)	Minimum Swing Over Carriage: 310mm / 12.20 in	☐	☐	*Provide Proposal Reference or Description*
(c)	Maximum Turning Diameter: 300mm / 11.81 in	☐	☐	*Provide Proposal Reference or Description*
(d)	Minimum Distance Between Centers: 425mm / 16.73 in	☐	☐	*Provide Proposal Reference or Description*
(e)	Maximum Turning Length: 310mm / 12.20 in	☐	☐	*Provide Proposal Reference or Description*
(f)	Maximum Bar Size: 70mm / 2.75 in	☐	☐	*Provide Proposal Reference or Description*
(g)	Minimum Chuck size: 8 inch	☐	☐	*Provide Proposal Reference or Description*
(h)	Minimum Turret Force (X-Axis): 7500 N	☐	☐	*Provide Proposal Reference or Description*
(i)	Minimum Turret Force (Y-Axis): 6000 N	☐	☐	*Provide Proposal Reference or Description*
(j)	Minimum Turret Force (Z-Axis): 7500 N	☐	☐	*Provide Proposal Reference or Description*
3.1.25.	The machine must be provided with the following axis travel capabilities:	☐	☐	*Provide Proposal Reference or Description*
(a)	Minimum Axis Travel (X-Axis): 210mm / 8.27 in	☐	☐	*Provide Proposal Reference or Description*
(b)	Minimum Axis Travel (Z-Axis): 315mm / 12.40 in	☐	☐	*Provide Proposal Reference or Description*
(c)	Minimum Axis Travel (Y-Axis): +/- 40mm / +/- 1.57 in	☐	☐	*Provide Proposal Reference or Description*
3.1.26.	The machine must be provided with the following main spindle capabilities:	☐	☐	*Provide Proposal Reference or Description*

MANDATORY REQUIREMENTS COMPLIANCY MATRIX				
SOW Para. #	**MANDATORY REQUIREMENT**	**COMPLIANT**		**RESPONSE REQUIREMENT**
		Yes	**No**	
(a)	Minimum Spindle Speed Range: 0 – 4000 RPM	☐	☐	*Provide Proposal Reference or Description*
(b)	Minimum Number of Spindle Speeds : Stepless	☐	☐	*Provide Proposal Reference or Description*
(c)	Spindle Nose: A2-6	☐	☐	*Provide Proposal Reference or Description*
(d)	Minimum Hole Through Spindle: 80mm / 3.15 in	☐	☐	*Provide Proposal Reference or Description*
(e)	Minimum Front Bearing Inner Diameter: 110mm / 4.33 in	☐	☐	*Provide Proposal Reference or Description*
(f)	Minimum Hole Through Draw Tube: 65mm / 2.56 in	☐	☐	*Provide Proposal Reference or Description*
(g)	Spindle Speed Override Switch	☐	☐	*Provide Proposal Reference or Description*
3.1.27.	The machine must be provided with the following capabilities for the drive motors:	☐	☐	*Provide Proposal Reference or Description*
(a)	Spindle Drive Motor: 15hp/11kW	☐	☐	*Provide Proposal Reference or Description*
(b)	X-Axis Drive Motor: 1.8kW	☐	☐	*Provide Proposal Reference or Description*
(c)	Z-Axis Drive Motor: 1.8kW	☐	☐	*Provide Proposal Reference or Description*
(d)	Y-Axis Drive Motor: 1.3kW	☐	☐	*Provide Proposal Reference or Description*
(e)	Turret Drive Motor: 0.75kW	☐	☐	*Provide Proposal Reference or Description*
(f)	Rotary Tool Drive Motor: 5.5hp/3.7kW	☐	☐	*Provide Proposal Reference or Description*
3.1.28.	The machine must be provided with the following capabilities for the C-Axis:	☐	☐	*Provide Proposal Reference or Description*
(a)	Least Increment: 0.001˚	☐	☐	*Provide Proposal Reference or Description*
(b)	Least Command Increment: 0.001˚	☐	☐	*Provide Proposal Reference or Description*
(c)	Minimum Rapid Index Speed: 600 min-1	☐	☐	*Provide Proposal Reference or Description*
(d)	Minimum Cutting Feedrate Range: 1 to 4800 deg/min	☐	☐	*Provide Proposal Reference or Description*
(e)	Simultaneous Controlled Axis: 3 axes (X+Z+C)	☐	☐	*Provide Proposal Reference or Description*
(f)	C-Axis Style Clamp: Disk Clamp	☐	☐	*Provide Proposal Reference or Description*
(g)	Minimum Braking Torque: 91 N-m	☐	☐	*Provide Proposal Reference or Description*
3.1.29.	The machine must be provided with the following rotary tool capabilities:	☐	☐	*Provide Proposal Reference or Description*
(a)	Minimum Speed Range: 0 to 5500 min-1	☐	☐	*Provide Proposal Reference or Description*

MANDATORY REQUIREMENTS COMPLIANCY MATRIX				
SOW Para. #	**MANDATORY REQUIREMENT**	**COMPLIANT**		**RESPONSE REQUIREMENT**
		Yes	**No**	
(b)	Minimum Number of Tool Mounting Positions: 15 positions	☐	☐	*Provide Proposal Reference or Description*
(c)	Straight Tool Holder Size Range: ϕ1mm to ϕ16mm	☐	☐	*Provide Proposal Reference or Description*
(d)	Cross Tool Holder Size Range: ϕ1mm to ϕ16mm	☐	☐	*Provide Proposal Reference or Description*
3.1.30.	The machine must be provided with the following turret head capabilities:	☐	☐	*Provide Proposal Reference or Description*
(a)	Minimum Number of Tool Stations: 15	☐	☐	*Provide Proposal Reference or Description*
(b)	Minimum Number of Tool Index Positions: 15	☐	☐	*Provide Proposal Reference or Description*
(c)	Turret Index/Positioning Mechanism: Curvic Coupling	☐	☐	*Provide Proposal Reference or Description*
(d)	Minimum Turret Clamping Force: 44 kN	☐	☐	*Provide Proposal Reference or Description*
(e)	Minimum Inside Diameter Turning Tool Mounting Bore Diameter: 32mm (1.26 in.)	☐	☐	*Provide Proposal Reference or Description*
3.1.31.	The machine must be provided with the following saddle capabilities:	☐	☐	*Provide Proposal Reference or Description*
(a)	Configuration: 30˚	☐	☐	*Provide Proposal Reference or Description*
(b)	Minimum X-Axis Ball Screw Diameter: 32mm, (1.26in.)	☐	☐	*Provide Proposal Reference or Description*
(c)	Minimum Z-Axis Ball Screw Diameter: 32mm, (1.26in.)	☐	☐	*Provide Proposal Reference or Description*
(d)	Minimum Y-Axis Ball Screw Diameter: 32mm, (1.26in.)	☐	☐	*Provide Proposal Reference or Description*
(e)	Minimum X-Axis Distance Between Slides: 250mm (9.84)	☐	☐	*Provide Proposal Reference or Description*
(f)	Minimum Z-Axis Distance Between Slides: 365mm (14.37)	☐	☐	*Provide Proposal Reference or Description*
(g)	Minimum Y-Axis Distance Between Slides: 250mm (9.84)	☐	☐	*Provide Proposal Reference or Description*
3.1.32.	The machine must be provided with the following cutting feed rate capabilities:	☐	☐	*Provide Proposal Reference or Description*
(a)	Minimum X-Axis Rapid Traverse: 24,000mm/min. (944.88 in/min.)	☐	☐	*Provide Proposal Reference or Description*
(b)	Minimum Z-Axis Rapid Traverse: 36,000mm/min. (1417.32 in/min.)	☐	☐	*Provide Proposal Reference or Description*
(c)	Minimum Y-Axis Rapid Traverse: 600,000mm/min. (236.22 in/min.)	☐	☐	*Provide Proposal Reference or Description*
(d)	Minimum X-Axis Cutting Feedrate Range: 1 to 8000 mm/min. (0.04 to 314.96 in/min.)	☐	☐	*Provide Proposal Reference or Description*
(e)	Minimum Z-Axis Cutting Feedrate Range: 1 to 8000 mm/min. (0.04 to 314.96 in/min.)	☐	☐	*Provide Proposal Reference or Description*

MANDATORY REQUIREMENTS COMPLIANCY MATRIX				
SOW Para. #	**MANDATORY REQUIREMENT**	**COMPLIANT**		**RESPONSE REQUIREMENT**
		Yes	**No**	
(f)	Minimum Y-Axis Cutting Feedrate Range: 1 to 6000 mm/min. (0.04 to 236.22 in/min.)	☐	☐	*Provide Proposal Reference or Description*
3.1.33.	The machine must be provided with the following tailstock capabilities:	☐	☐	*Provide Proposal Reference or Description*
(a)	Drive: Manual	☐	☐	*Provide Proposal Reference or Description*
(b)	Minimum Positioning Stroke: 200mm (7.87in)	☐	☐	*Provide Proposal Reference or Description*
(c)	Minimum Spindle Diameter: 70mm (2.76in)	☐	☐	*Provide Proposal Reference or Description*
(d)	Taper Hole Size: MT-4	☐	☐	*Provide Proposal Reference or Description*
(e)	Standard MT-4 Rotating Center	☐	☐	*Provide Proposal Reference or Description*
(f)	Minimum Spindle Stroke: 80mm (3.15in)	☐	☐	*Provide Proposal Reference or Description*
(g)	Clamping Method: Manual	☐	☐	*Provide Proposal Reference or Description*
3.1.34.	The machine must be provided with the following physical dimensions and capabilities:	☐	☐	*Provide Proposal Reference or Description*
(a)	Maximum Machine Height: 1900mm/74.803in	☐	☐	*Provide Proposal Reference or Description*
(b)	Maximum Floor Space Required: 1700mm x 1700mm/66.92in x 66.92in	☐	☐	*Provide Proposal Reference or Description*
(c)	Minimum Machine Weight: 3200kg/7056lbs	☐	☐	*Provide Proposal Reference or Description*
(d)	Maximum Noise Level: 83dB	☐	☐	*Provide Proposal Reference or Description*
(e)	Maximum Workhead Vibration: 10V	☐	☐	*Provide Proposal Reference or Description*
(f)	Maximum Saddle Vibration: 10V	☐	☐	*Provide Proposal Reference or Description*
3.1.35.	The machine must be provided with the following tool holder capabilities:	☐	☐	*Provide Proposal Reference or Description*
(a)	Six (6) Tool holders A for CCW	☐	☐	*Provide Proposal Reference or Description*
(b)	Two (2) Multi-Boring Holders 1.0”	☐	☐	*Provide Proposal Reference or Description*
(c)	Four (4) Boring Holder ID 1.1/4”	☐	☐	*Provide Proposal Reference or Description*
(d)	Two (2) Round Hole Bush 1.0” – 3/4”	☐	☐	*Provide Proposal Reference or Description*
(e)	Two (2) Round Hole Bush 1.0” – 1/2”	☐	☐	*Provide Proposal Reference or Description*
(f)	Two (2) Round Hole Bush 1.0” – 5/8”	☐	☐	*Provide Proposal Reference or Description*
(g)	Three (3) Cross Milling Holder	☐	☐	*Provide Proposal Reference or Description*

MANDATORY REQUIREMENTS COMPLIANCY MATRIX				
SOW Para. #	**MANDATORY REQUIREMENT**	**COMPLIANT**		**RESPONSE REQUIREMENT**
		Yes	**No**	
(h)	Three (3) Face Milling Holder	☐	☐	*Provide Proposal Reference or Description*
(i)	Ten (10) ALPS Collet (type AR 25*) (8mm – 16mm)	☐	☐	*Provide Proposal Reference or Description*
3.1.36.	The machine must function with the following accessories, which must be provided with the machine:	☐	☐	*Provide Proposal Reference or Description*
(a)	One (1) Manual Tool Setter	☐	☐	*Provide Proposal Reference or Description*
(b)	One (1) Thru-turret/tool coolant – High Pressure 300 psi Coolant pump including 20 psi pump	☐	☐	*Provide Proposal Reference or Description*
(c)	One (1) Hainbuck Spanntop Nova Combi Pull-back chuck	☐	☐	*Provide Proposal Reference or Description*
(d)	One (1) set of Clamping heads RD BZI 4-65MM (Round) for Hainbuck Spanntop Nova Combi Pull-back chuck	☐	☐	*Provide Proposal Reference or Description*
(e)	One (1) set of Clamping heads RD BZI 8-56MM (Hex) for Hainbuck Spanntop Nova Combi Pull-back chuck	☐	☐	*Provide Proposal Reference or Description*
(f)	One (1) set of Clamping heads RD BZIG 3-65MM (Round) for Hainbuck Spanntop Nova Combi Pull-back chuck	☐	☐	*Provide Proposal Reference or Description*
(g)	One (1) set of Clamping heads RD BZIG 7-56MM (Hex) for Hainbuck Spanntop Nova Combi Pull-back chuck	☐	☐	*Provide Proposal Reference or Description*
(h)	Three (3) Clamping heads RD BZI HSW 3MM (Machinable) for Hainbuck Spanntop Nova Combi Pull-back chuck	☐	☐	*Provide Proposal Reference or Description*
(i)	Three (3) Clamping heads RD BZI HSW 5MM (Machinable) for Hainbuck Spanntop Nova Combi Pull-back chuck	☐	☐	*Provide Proposal Reference or Description*
(j)	Three (3) Clamping heads RD BZI HSW 8MM (Machinable) for Hainbuck Spanntop Nova Combi Pull-back chuck	☐	☐	*Provide Proposal Reference or Description*
(k)	Three (3) Clamping heads RD BZI HSW 20MM (Machinable) for Hainbuck Spanntop Nova Combi Pull-back chuck	☐	☐	*Provide Proposal Reference or Description*
(l)	Three (3) Clamping heads RD BZI HSW 40MM (Machinable) for Hainbuck Spanntop Nova Combi Pull-back chuck	☐	☐	*Provide Proposal Reference or Description*
(m)	One (1) Hainbuck Jaw Module RD	☐	☐	*Provide Proposal Reference or Description*
(n)	Three (3) Soft Jaws for Hainbuck Jaw Module RD	☐	☐	*Provide Proposal Reference or Description*
(o)	One (1) Hard Jaw for Hainbuck Jaw Module RD	☐	☐	*Provide Proposal Reference or Description*
(p)	One (1) Hard Jaw for Hainbuck Jaw Module RD	☐	☐	*Provide Proposal Reference or Description*

MANDATORY REQUIREMENTS COMPLIANCY MATRIX				
SOW Para. #	**MANDATORY REQUIREMENT**	**COMPLIANT**		**RESPONSE REQUIREMENT**
		Yes	**No**	
(q)	One (1) Hard Jaw for Hainbuck Jaw Module RD	☐	☐	*Provide Proposal Reference or Description*
(r)	One (1) Hard Jaw for Hainbuck Jaw Module RD	☐	☐	*Provide Proposal Reference or Description*
(s)	One (1) Hard Jaw for Hainbuck Jaw Module RD	☐	☐	*Provide Proposal Reference or Description*
(t)	One (1) Hainbuck Face Driver Adaptation RD	☐	☐	*Provide Proposal Reference or Description*
(u)	One (1) Hainbuck Manual Changing Fixture	☐	☐	*Provide Proposal Reference or Description*

ANNEX "C"

SECURITY REQUIREMENTS CHECK LIST

NOV 3 0 2017

Government of Canada / Gouvernement du Canada

Contract Number / Numéro du contrat
W8486 - 184737
Security Classification / Classification de sécurité
Unclassified

SECURITY REQUIREMENTS CHECK LIST (SRCL)
LISTE DE VÉRIFICATION DES EXIGENCES RELATIVES À LA SÉCURITÉ (LVERS)

PART A - CONTRACT INFORMATION / PARTIE A - INFORMATION CONTRACTUELLE

1. Originating Government Department or Organization / Ministère ou organisme gouvernemental d'origine: DND
2. Branch or Directorate / Direction générale ou Direction: Quality Engineering Test Establishment (QETE)
3. a) Subcontract Number / Numéro du contrat de sous-traitance
3. b) Name and Address of Subcontractor / Nom et adresse du sous-traitant
4. Brief Description of Work / Brève description du travail:
Purchase, delivery, installation, testing, commissioning and training for Live Tooling Slant Bed Lathe at QETE
Delivery Address: DND, QETE Supply, NPB Building, 45 Blvd Sacré-Coeur, Room C1113, Ramp 7, Gatineau, QC, J8X 1C6
5. a) Will the supplier require access to Controlled Goods? Le fournisseur aura-t-il accès à des marchandises contrôlées? — No / Non ✓ — Yes / Oui
5. b) Will the supplier require access to unclassified military technical data subject to the provisions of the Technical Data Control Regulations? Le fournisseur aura-t-il accès à des données techniques militaires non classifiées qui sont assujetties aux dispositions du Règlement sur le contrôle des données techniques? — No / Non ✓ — Yes / Oui
6. Indicate the type of access required / Indiquer le type d'accès requis
6. a) Will the supplier and its employees require access to PROTECTED and/or CLASSIFIED information or assets? Le fournisseur ainsi que les employés auront-ils accès à des renseignements ou à des biens PROTÉGÉS et/ou CLASSIFIÉS? (Specify the level of access using the chart in Question 7. c) (Préciser le niveau d'accès en utilisant le tableau qui se trouve à la question 7. c) — No / Non ✓ — Yes / Oui
6. b) Will the supplier and its employees (e.g. cleaners, maintenance personnel) require access to restricted access areas? No access to PROTECTED and/or CLASSIFIED information or assets is permitted. Le fournisseur et ses employés (p. ex. nettoyeurs, personnel d'entretien) auront-ils accès à des zones d'accès restreintes? L'accès à des renseignements ou à des biens PROTÉGÉS et/ou CLASSIFIÉS n'est pas autorisé. — No / Non — Yes / Oui ✓
6. c) Is this a commercial courier or delivery requirement with no overnight storage? S'agit-il d'un contrat de messagerie ou de livraison commerciale sans entreposage de nuit? — No / Non ✓ — Yes / Oui
7. a) Indicate the type of information that the supplier will be required to access / Indiquer le type d'information auquel le fournisseur devra avoir accès

Canada	NATO / OTAN	Foreign / Étranger
7. b) Release restrictions / Restrictions relatives à la diffusion		
No release restrictions / Aucune restriction relative à la diffusion	All NATO countries / Tous les pays de l'OTAN	No release restrictions / Aucune restriction relative à la diffusion
Not releasable / À ne pas diffuser		
Restricted to: / Limité à :	Restricted to: / Limité à :	Restricted to: / Limité à :
Specify country(ies): / Préciser le(s) pays :	Specify country(ies): / Préciser le(s) pays :	Specify country(ies): / Préciser le(s) pays :
7. c) Level of information / Niveau d'information		
PROTECTED A / PROTÉGÉ A	NATO UNCLASSIFIED / NATO NON CLASSIFIÉ	PROTECTED A / PROTÉGÉ A
PROTECTED B / PROTÉGÉ B	NATO RESTRICTED / NATO DIFFUSION RESTREINTE	PROTECTED B / PROTÉGÉ B
PROTECTED C / PROTÉGÉ C	NATO CONFIDENTIAL / NATO CONFIDENTIEL	PROTECTED C / PROTÉGÉ C
CONFIDENTIAL / CONFIDENTIEL	NATO SECRET / NATO SECRET	CONFIDENTIAL / CONFIDENTIEL
SECRET / SECRET	COSMIC TOP SECRET / COSMIC TRÈS SECRET	SECRET / SECRET
TOP SECRET / TRÈS SECRET		TOP SECRET / TRÈS SECRET
TOP SECRET (SIGINT) / TRÈS SECRET (SIGINT)		TOP SECRET (SIGINT) / TRÈS SECRET (SIGINT)

TBS/SCT 350-103(2004/12)

Security Classification / Classification de sécurité
Unclassified

Canada

Government of Canada / Gouvernement du Canada

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PART A (continued) / PARTIE A (suite)

8. Will the supplier require access to PROTECTED and/or CLASSIFIED COMSEC information or assets?
Le fournisseur aura-t-il accès à des renseignements ou à des biens COMSEC désignés PROTÉGÉS et/ou CLASSIFIÉS?
If Yes, indicate the level of sensitivity:
Dans l'affirmative, indiquer le niveau de sensibilité :
☑ No Non ☐ Yes Oui

9. Will the supplier require access to extremely sensitive INFOSEC information or assets?
Le fournisseur aura-t-il accès à des renseignements ou à des biens INFOSEC de nature extrêmement délicate?
☑ No Non ☐ Yes Oui

Short Title(s) of material / Titre(s) abrégé(s) du matériel :
Document Number / Numéro du document :

PART B - PERSONNEL (SUPPLIER) / PARTIE B - PERSONNEL (FOURNISSEUR)

10. a) Personnel security screening level required / Niveau de contrôle de la sécurité du personnel requis

☑ RELIABILITY STATUS / COTE DE FIABILITÉ	☐ CONFIDENTIAL / CONFIDENTIEL	☐ SECRET / SECRET	☐ TOP SECRET / TRÈS SECRET
☐ TOP SECRET– SIGINT / TRÈS SECRET – SIGINT	☐ NATO CONFIDENTIAL / NATO CONFIDENTIEL	☐ NATO SECRET / NATO SECRET	☐ COSMIC TOP SECRET / COSMIC TRÈS SECRET
☐ SITE ACCESS / ACCÈS AUX EMPLACEMENTS			

Special comments:
Commentaires spéciaux : Site access to operational zone required to install and test equipment and to train QETE staff on its use.

NOTE: If multiple levels of screening are identified, a Security Classification Guide must be provided.
REMARQUE : Si plusieurs niveaux de contrôle de sécurité sont requis, un guide de classification de la sécurité doit être fourni.

10. b) May unscreened personnel be used for portions of the work?
Du personnel sans autorisation sécuritaire peut-il se voir confier des parties du travail?
☑ No Non ☐ Yes Oui

If Yes, will unscreened personnel be escorted?
Dans l'affirmative, le personnel en question sera-t-il escorté?
☐ No Non ☐ Yes Oui

PART C - SAFEGUARDS (SUPPLIER) / PARTIE C - MESURES DE PROTECTION (FOURNISSEUR)

INFORMATION / ASSETS / RENSEIGNEMENTS / BIENS

11. a) Will the supplier be required to receive and store PROTECTED and/or CLASSIFIED information or assets on its site or premises?
Le fournisseur sera-t-il tenu de recevoir et d'entreposer sur place des renseignements ou des biens PROTÉGÉS et/ou CLASSIFIÉS?
☑ No Non ☐ Yes Oui

11. b) Will the supplier be required to safeguard COMSEC information or assets?
Le fournisseur sera-t-il tenu de protéger des renseignements ou des biens COMSEC?
☑ No Non ☐ Yes Oui

PRODUCTION

11. c) Will the production (manufacture, and/or repair and/or modification) of PROTECTED and/or CLASSIFIED material or equipment occur at the supplier's site or premises?
Les installations du fournisseur serviront-elles à la production (fabrication et/ou réparation et/ou modification) de matériel PROTÉGÉ et/ou CLASSIFIÉ?
☑ No Non ☐ Yes Oui

INFORMATION TECHNOLOGY (IT) MEDIA / SUPPORT RELATIF À LA TECHNOLOGIE DE L'INFORMATION (TI)

11. d) Will the supplier be required to use its IT systems to electronically process, produce or store PROTECTED and/or CLASSIFIED information or data?
Le fournisseur sera-t-il tenu d'utiliser ses propres systèmes informatiques pour traiter, produire ou stocker électroniquement des renseignements ou des données PROTÉGÉS et/ou CLASSIFIÉS?
☑ No Non ☐ Yes Oui

11. e) Will there be an electronic link between the supplier's IT systems and the government department or agency?
Disposera-t-on d'un lien électronique entre le système informatique du fournisseur et celui du ministère ou de l'agence gouvernementale?
☑ No Non ☐ Yes Oui

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PART C - (continued) / PARTIE C - (suite)

For users completing the form manually use the summary chart below to indicate the category(ies) and level(s) of safeguarding required at the supplier's site(s) or premises.
Les utilisateurs qui remplissent le formulaire manuellement doivent utiliser le tableau récapitulatif ci-dessous pour indiquer, pour chaque catégorie, les niveaux de sauvegarde requis aux installations du fournisseur.

For users completing the form online (via the Internet), the summary chart is automatically populated by your responses to previous questions.
Dans le cas des utilisateurs qui remplissent le formulaire en ligne (par Internet), les réponses aux questions précédentes sont automatiquement saisies dans le tableau récapitulatif.

SUMMARY CHART / TABLEAU RÉCAPITULATIF

Category / Catégorie	PROTECTED / PROTÉGÉ			CLASSIFIED / CLASSIFIÉ			NATO				COMSEC					
	A	B	C	CONFIDENTIAL / CONFIDENTIEL	SECRET	TOP SECRET / TRÈS SECRET	NATO RESTRICTED / NATO DIFFUSION RESTREINTE	NATO CONFIDENTIAL / NATO CONFIDENTIEL	NATO SECRET	COSMIC TOP SECRET / COSMIC TRÈS SECRET	PROTECTED / PROTÉGÉ A	PROTECTED / PROTÉGÉ B	PROTECTED / PROTÉGÉ C	CONFIDENTIAL / CONFIDENTIEL	SECRET	TOP SECRET / TRÈS SECRET
Information / Assets / Renseignements / Biens																
Production																
IT Media / Support TI																
IT Link / Lien électronique																

12. a) Is the description of the work contained within this SRCL PROTECTED and/or CLASSIFIED?
La description du travail visé par la présente LVERS est-elle de nature PROTÉGÉE et/ou CLASSIFIÉE?

☑ No / Non ☐ Yes / Oui

If Yes, classify this form by annotating the top and bottom in the area entitled "Security Classification".
Dans l'affirmative, classifier le présent formulaire en indiquant le niveau de sécurité dans la case intitulée « Classification de sécurité » au haut et au bas du formulaire.

12. b) Will the documentation attached to this SRCL be PROTECTED and/or CLASSIFIED?
La documentation associée à la présente LVERS sera-t-elle PROTÉGÉE et/ou CLASSIFIÉE?

☑ No / Non ☐ Yes / Oui

If Yes, classify this form by annotating the top and bottom in the area entitled "Security Classification" and indicate with attachments (e.g. SECRET with Attachments).
Dans l'affirmative, classifier le présent formulaire en indiquant le niveau de sécurité dans la case intitulée « Classification de sécurité » au haut et au bas du formulaire et indiquer qu'il y a des pièces jointes (p. ex. SECRET avec des pièces jointes).

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Unclassified

PART D - AUTHORIZATION / PARTIE D - AUTORISATION

13. Organization Project Authority / Chargé de projet de l'organisme

Name (print) - Nom (en lettres moulées)	Title - Titre	Signature
Donald Turcotte	Complex Projects Manager	

Telephone No. - N° de téléphone	Facsimile No. - N° de télécopieur	E-mail address - Adresse courriel	Date
819-939-9149	819-997-2523	donald.turcotte@forces.gc.ca	25SEP17

14. Organization Security Authority / Responsable de la sécurité de l'organisme

Name (print) - Nom (en lettres moulées)	Title - Titre	Signature
Sasa Medjovic	DDSO - Industrial Security Senior Security Analyst	

Telephone No. - N° de téléphone	Facsimile No. - N° de télécopieur	E-mail address - Adresse courriel	Date
[illegible]	E-mail: sasa.medjovic@forces.gc.ca		2017-Nov-29

15. Are there additional instructions (e.g. Security Guide, Security Classification Guide) attached?
Des instructions supplémentaires (p. ex. Guide de sécurité, Guide de classification de la sécurité) sont-elles jointes?
☐ No / Non ☑ Yes / Oui

16. Procurement Officer / Agent d'approvisionnement

Name (print) - Nom (en lettres moulées)	Title - Titre	Signature
Darlene Miller		

Telephone No. - N° de téléphone	Facsimile No. - N° de télécopieur	E-mail address - Adresse courriel	Date
8199399575			27 Nov 2017

17. Contracting Security Authority / Autorité contractante en matière de sécurité

Name (print) - Nom (en lettres moulées)	Title - Titre	Signature
Andree Francis	Contract Security Officer	

Telephone No. - N° de téléphone	Facsimile No. - N° de télécopieur	E-mail address - Adresse courriel	Date
(613-957-9366			22/12/2017

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Security Classification / Classification de sécurité
Unclassified

Canada

ANNEX "D"

ATTACHMENT 1 TO PART 3, PRICING SCHEDULE

The Bidder must complete this pricing schedule and include it in its financial bid once completed. Bidders must include a price for all items. The information in this Annex will form part of the resulting contract. It is anticipated that in the resulting contract, this Annex will become Annex “B”.

Bidders are to review paragraph 3.1 Bid Preparation Instructions Section II Financial bid for instructions on the completion of the Pricing Schedule.

Bidders must fill in the prices for the following items. Goods and Services Tax (GST) and/or the Harmonized Sales Tax (HST) not included.

Item	Description	Proposed Part Numbers Option/ Components	Units of Issue	Qty.	Firm Unit/Lot Prices	Extended Price
001	The trade-in value of the equipment to be removed, plus accessories as per the Statement of Work Annex "A"		Lot	1	$	**$**
002	The trade-in value of the Disconnect box, if applicable		Each	1	$	**$**
003	The trade-in value of the Transformer, if applicable.		Each	1	$	**$**
004	Supply quantity one (1) Live Tooling Slant Bed Lathe as per the SOW, Annex “A”. DELIVERY: six (6) weeks after contract award		Each	1	$	**$**
005	Post Processors compatible with the following software as per the SOW, Annex “A”. (a) MasterCAM X8 version 0.26.0.139 (b) MasterCAM X9 version 18.0.11898.0 (C) GibbsCAM version 10.3.16 (64 bit) DELIVERY: six (6) weeks after contract award		 Each Each Each	 1 1 1	 $ $ $	 **$** **$** **$**
006	Accessories as per the SOW, Annex “A DELIVERY: six (6) weeks after contract award & with the Live tooling Slant Bed Lathe a) One (1) Manual Tool Setter b) One (1) Thru-turret/tool coolant – High Pressure 300 psi Coolant pump including 20 psi pump		 Each Each	 1 1	 $ $	 **$** **$**

	c) One (1) Hainbuck Spanntop Nova Combi Pull-back chuck Part# 2702/0007		Each	1	$	**$**
	d) One (1) set of Clamping heads RD BZI 4-65MM (Round) # sk65bzir4,0-65,0 for Hainbuck Spanntop Nova Combi Pull-back chuck		Set	1	$	**$**
	e) One (1) set of Clamping heads RD BZI 8-56MM (Hex) # sk65bzis8,0-56,0 for Hainbuck Spanntop Nova Combi Pull-back chuck		Set	1	$	**$**
	f) One (1) set of Clamping heads RD BZIG 3-65MM (Round) # sk65bzigr3,0-65,0 for Hainbuck Spanntop Nova Combi Pull-back chuck		Set	1	$	**$**
	g) One (1) set of Clamping heads RD BZIG 7-56MM (Hex) # sk65bzigs7,0-56,0 for Hainbuck Spanntop Nova Combi Pull-back chuck		Set	1	$	**$**
	h) Three (3) Clamping head RD BZI HSW 3MM (Machinable) # sk65bzihswr3,0 for Hainbuck Spanntop Nova Combi Pull-back chuck		Each	3	$	**$**
	i) Three (3) Clamping head RD BZI HSW 5MM (Machinable) # sk65bzihswr5,0 for Hainbuck Spanntop Nova Combi Pull-back chuck		Each	3	$	**$**
	j) Three (3) Clamping head RD BZI HSW 8MM (Machinable) # sk65bzihswr8,0 for Hainbuck Spanntop Nova Combi Pull-back chuck		Each	3	$	**$**
	k) Three (3) Clamping head RD BZI HSW 20MM (Machinable) # for Hainbuck Spanntop Nova Combi Pull-back chuck sk65bzihswr20,0		Each	3	$	**$**
	l) Three (3) Clamping head RD BZI HSW 40MM (Machinable) # for Hainbuck Spanntop Nova Combi Pull-back chuck sk65bzihswr40,0		Each	3	$	**$**
	m) One (1) Jaw Module RD Part # 10721/0001		Each	1	$	**$**
	n) Three (3) Soft Jaws #10724/0002 for Jaw Module RD		Each	3	$	**$**
	o) One (1) Hard Jaws # 10723/0004 for Jaw Module RD		Each	1	$	**$**
	p) One (1) Hard Jaws # 10723/0005 for Jaw Module RD		Each	1	$	**$**
	q) One (1) Hard Jaws # 10723/0006 for Jaw Module RD		Each	1	$	**$**
	r) One (1) Hard Jaws # 10723/0007 for Jaw Module RD		Each	1	$	**$**
	s) One (1) Hard Jaws # 10723/0008 for Jaw Module RD		Each	1	$	**$**
	t) One (1) Face Driver Adaptation RD Part # 10659/0003		Each	1	$	**$**
	u) One (1) Manual Changing Fixture Part# mq65		Each	1	$	**$**
007	Services – The Contractor must provide the following service deliverables as per SOW, Annex					

	"A": a) De-commissioning and Removal Services COMPLETED: Within two (2) weeks after contract award as per SOW, Annex "A".		Lot	1	$	**$**
	b) Installation and Commissioning Services DELIVERY: Within one (1) week after equipment delivery as per the SOW, Annex "A. To include all costs for travel, accommodation, meals, wages, living expenses and all other associated costs for the vendor's representative.		Lot	1	$	**$**
	c) Training Services DELIVERY: Within five (5) days after equipment commissioning. To include all costs for travel, accommodation, meals, wages, living expenses and all other associated costs for the vendor's representative.		Lot	1	$	**$**
	d) Software Support Services DELIVERY: Within one (1) week after equipment delivery as per the SOW, Annex "A.		Lot	1	$	**$**
008	<u>Documentation</u> – The Contractor must provide the following documents to the Technical Authority as per the SOW Annex "A". DELIVERY: at the time of the equipment delivery. a) Inspection Report: Quantity of one (1) b) Certificate of Calibration: Quantity of one (1) c) Statement of Compliance: Quantity of one (1) d) Statement of Continued Production and Support : Quantity of one (1) e) Machine User and Maintenance Manual: Quantity of one (1) f) Training Material: Quantity of one (1) per student		Lot	1	$	**$**
009	Disconnect box DELIVERY: Within one (1) week after equipment		Each	1	$	**$**

	delivery as per the SOW, Annex “A.					
010	Transformer DELIVERY: Within one (1) week after equipment delivery as per the SOW, Annex “A		Each	1	$	**$**
Total Evaluated Bid Price (Total Evaluated Bid Price = Total Bid price for item 004 to 010 minus (-) Total trade in value for Item 001 to 003)						**$**

ANNEX “E” to PART 3 OF THE - BID SOLICITATION

ELECTRONIC PAYMENT INSTRUMENTS

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

( ) Direct Deposit (Domestic and International);

( ) Electronic Data Interchange (EDI);

( ) Wire Transfer (International Only);

ANNEX "F"

COMMERCIAL GENERAL LIABILITY INSURANCE

1. The Contractor must obtain Commercial General Liability Insurance, and maintain it in force throughout the duration of the Contract, in an amount usual for a contract of this nature, but for not less than $2,000,000 per accident or occurrence and in the annual aggregate.

2. The Commercial General Liability policy must include the following:
3.
    a. Additional Insured: Canada is added as an additional insured, but only with respect to liability arising out of the Contractor's performance of the Contract. The interest of Canada should read as follows: Canada, as represented by Public Works and Government Services Canada.
    b. Bodily Injury and Property Damage to third parties arising out of the operations of the Contractor.
    c. Products and Completed Operations: Coverage for bodily injury or property damage arising out of goods or products manufactured, sold, handled, or distributed by the Contractor and/or arising out of operations that have been completed by the Contractor.
    d. Personal Injury: While not limited to, the coverage must include Violation of Privacy, Libel and Slander, False Arrest, Detention or Imprisonment and Defamation of Character.
    e. Cross Liability/Separation of Insureds: Without increasing the limit of liability, the policy must protect all insured parties to the full extent of coverage provided. Further, the policy must apply to each Insured in the same manner and to the same extent as if a separate policy had been issued to each.
    f. Blanket Contractual Liability: The policy must, on a blanket basis or by specific reference to the Contract, extend to assumed liabilities with respect to contractual provisions.
    g. Employees and, if applicable, Volunteers must be included as Additional Insured.
    h. Employers' Liability (or confirmation that all employees are covered by Worker's compensation (WSIB) or similar program)
    i. Broad Form Property Damage including Completed Operations: Expands the Property Damage coverage to include certain losses that would otherwise be excluded by the standard care, custody or control exclusion found in a standard policy.
    j. Notice of Cancellation: The Insurer will endeavour to provide the Contracting Authority thirty (30) days written notice of policy cancellation.
    k. If the policy is written on a claims-made basis, coverage must be in place for a period of at least 12 months after the completion or termination of the Contract.
    l. Owners' or Contractors' Protective Liability: Covers the damages that the Contractor becomes legally obligated to pay arising out of the operations of a subcontractor.
    m. Non-Owned Automobile Liability - Coverage for suits against the Contractor resulting from the use of hired or non-owned vehicles.
    n. Litigation Rights: Pursuant to subsection 5(d) of the *Department of Justice Act*, S.C. 1993, c. J-2, s.1, if a suit is instituted for or against Canada which the Insurer would, but for this clause, have the right to pursue or defend on behalf of Canada as an Additional Named Insured under the insurance policy, the Insurer must promptly contact the Attorney General of Canada to agree on the legal strategies by sending a letter, by registered mail or by courier, with an acknowledgement of receipt.

    For the province of Quebec, send to:
    Director Business Law Directorate,
    Quebec Regional Office (Ottawa),
    Department of Justice,

284 Wellington Street, Room SAT-6042,
Ottawa, Ontario, K1A 0H8

For other provinces and territories, send to:
Senior General Counsel,
Civil Litigation Section,
Department of Justice
234 Wellington Street, East Tower
Ottawa, Ontario K1A 0H8

A copy of the letter must be sent to the Contracting Authority. Canada reserves the right to co-defend any action brought against Canada. All expenses incurred by Canada to co-defend such actions will be at Canada's expense. If Canada decides to co-defend any action brought against it, and Canada does not agree to a proposed settlement agreed to by the Contractor's insurer and the plaintiff(s) that would result in the settlement or dismissal of the action against Canada, then Canada will be responsible to the Contractor's insurer for any difference between the proposed settlement amount and the amount finally awarded or paid to the plaintiffs (inclusive of costs and interest) on behalf of Canada.