

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

REQUEST FOR PROPOSAL
DEMANDE DE PROPOSITION

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

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

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

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

Comments - Commentaires

Title - Sujet WIRE ELECTRIC DISCHARGE MACHINE	
Solicitation No. - N° de l'invitation W8486-151461/A	Date 2014-12-04
Client Reference No. - N° de référence du client W8486-151461	
GETS Reference No. - N° de référence de SEAG PW-\$\$HN-458-66283	
File No. - N° de dossier hn458.W8486-151461	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2015-01-14	
Time Zone Fuseau horaire Eastern Standard Time EST	
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input checked="" type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Lee, Carlos	Buyer Id - Id de l'acheteur hn458
Telephone No. - N° de téléphone (819) 956-3490 ()	FAX No. - N° de FAX (819) 953-4944
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: Specified Herein Précisé dans les présentes	

Instructions: See Herein

Instructions: Voir aux présentes

Vendor/Firm Name and Address

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

Issuing Office - Bureau de distribution

Electrical & Electronics Products Division
11 Laurier St./11, rue Laurier
7B3, Place du Portage, Phase III
Gatineau, Québec K1A 0S5

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

Destination Code - Code destinataire	Destination Address - Adresse de la destination	Invoice Code - Code bur.-comptable	Invoice Address - Adresse de facturation
D - 1	DEPARTMENT OF NATIONAL DEFENCE C/O QETE WAREHOUSE 819-997-1706 45 SACRE-COEUR BLVD. RAMP 8, ROOM C-1113 GATINEAU QC J8X 1C6 CANADA	W8486	DEPARTMENT OF NATIONAL DEFENCE 101 COLONEL BY DR. ATTN: CHANTAL TRUDEL QETE/NPB OTTAWA Ontario K1A0K2 Canada

Item Article	Description	Dest. Code Dest.	Inv. Code Fact.	Qty Qté	U. of I. U. de D.	Unit Price/Prix unitaire FOB/FAM Destination	Plant/Usine	Delivery Req. Livraison Req.	Del. Offered Liv. offerte
1	WIRE ELECTRICAL DISCHARGE MACHINE One (1) Wire Electric Discharge Machine in accordance with the technical requirements stated herein at ANNEX B - Statement of Requirement. • Firm unit price of \$ _____ Delivered Duty Paid at Gatineau, QC (GST/HST excluded). • The possibility of one (1) AGIE 150F (Serial Number 634.007) as a trade-in • Firm unit price of \$ _____ including the cost of pick-up, from Gatineau, QC (GST/HST excluded). • • • Model Number Offered: _____ • Name of Manufacturer: _____ • Delivery Date Offered: _____	D - 1	W8486	1	Each	\$	XXXXXXXXXXXX	See Herein	

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PART 1 - GENERAL INFORMATION

1. Security Requirement

There is no security requirement associated with the requirement.

2. Requirement

The contractor will be required to provide the goods in accordance with the technical requirements and in the quantities stated herein at **ANNEX B – STATEMENT OF REQUIREMENT**

This requirement includes the possibility of one (1) AGIE 150F (Serial Number 634.007) as a trade-in

2.1 Delivery Requirement

Delivery is requested to be completed by March 31, 2015.

3. Debriefings

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



PART 2 - BIDDER INSTRUCTIONS

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 (2014-03-01) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

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

Delete: sixty (60) days
Insert: ninety (90) calendar days

1.1 SACC Manual Clauses

SACC Reference	Section	Date
A9033T	Financial Capability	2012-07-16
B1000T	Condition of Material	2007-11-30

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.

3. Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than five (5) calendar days before the bid closing date. Enquiries received after that time may not be answered.

Bidders should reference as accurately as possible the numbered item of the bid solicitation to which the enquiry relates. Care should be taken by bidders to explain each question in sufficient detail in order to enable Canada to provide an accurate answer. Technical enquiries that are of a proprietary nature must be clearly marked "proprietary" at each relevant item. Items identified as "proprietary" will be treated as such except where Canada determines that the enquiry is not of a proprietary nature. Canada may edit the questions or may request that the Bidder do so, so that the proprietary nature of the question is eliminated, and the enquiry can be answered with copies to all bidders. Enquiries not submitted in a form that can be distributed to all bidders may not be answered by Canada.

4. Applicable Laws

Any resulting contract must be interpreted and governed, and the relations between the parties determined, by the laws in force in Ontario.

Bidders may, at their discretion, substitute the applicable laws of a Canadian province or territory of their choice without affecting the validity of their bid, by deleting the name of the Canadian province or territory specified and inserting the name of the Canadian province or territory of their choice. If no change is made, it acknowledges that the applicable laws specified are acceptable to the bidders.

5. 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 the Department of National Defence, QETE Warehouse, 45 Sacre-Coeur Blvd, Gatineau QC, J8X 1C6 on Wednesday, December 17, 2014). The site visit will begin at 10:00 am, in Room C-1113

Bidders must communicate with the Contracting Authority no later than Monday, December 15, 2014 to confirm attendance and provide the name(s) of the person(s) who will attend. 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

PART 3 - BID PREPARATION INSTRUCTIONS

1. Bid Preparation Instructions

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

Section I: Technical Bid (2 hard copies)

Section II: Financial Bid (1 hard copy)

Section III: Certifications (1 hard copy)

Section IV: Additional Information (1 hard copy)

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 are encouraged to:

- 1) use paper containing fibre certified as originating from a sustainably-managed forest and/or 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.



1.1 Equivalent Products

1. Products that are equivalent in form, fit, function and quality to the item(s) specified in the bid solicitation will be considered where the Bidder:
 - (a) designates the brand name and model and/or part number and NCAGE of the substitute product;
2. Products offered as equivalent in form, fit, function and quality will not be considered if:
 - (a) the bid fails to provide all the information requested to allow the Contracting Authority to fully evaluate the equivalency of each substitute product; or
 - (b) the substitute product fails to meet or exceed the mandatory performance criteria specified in the bid solicitation for that item.
3. In conducting its evaluation of the bids, Canada may, but will have no obligation to, request bidders offering a substitute product to provide technical information demonstrating the equivalency (e.g. Drawing, specifications, engineering reports and/or test reports), or to demonstrate that the substitute product is equivalent to the item specified in the bid solicitation, at the sole cost of bidders, within fifteen (15) business days of the request. If the bidder fails to provide the requested information within the specified delay, Canada may declare the bid non-responsive.

Section II: Financial Bid

Bidders must submit their financial bid in accordance with the Basis of Payment. The total amount of Applicable Taxes must be shown separately.

1.2 Exchange Rate Fluctuation

The requirement does not offer exchange rate fluctuation risk mitigation. Requests for exchange rate fluctuation risk mitigation will not be considered. All bids including such provision will render the bid non-responsive.

Section III: Certifications

1.3 Certifications

Bidders must submit the certifications required under Part 5.

Section IV: Additional Information

1.4 Additional Information

1.4.1 Delivery Offered

While delivery is requested as indicated above, the best delivery that could be offered is _____.

1.4.2 Contractor Representatives

Name and telephone number of the person responsible for :

General enquiries

Name:

Telephone:

Facsimile:

E-mail:

Delivery follow-up

Name:

Telephone:

Facsimile:

E-mail:

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

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.

Evaluation Criteria

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

1.1 Technical Evaluation

1.1.1 Mandatory Technical Criteria

The following Mandatory requirements must be submitted with the bid for evaluation

- Technical compliance (description of items as stated in Annex B – Statement of Requirement);
- Completion of Annex C – Compliancy Matrix

1.2 Financial Evaluation

The following **Mandatory** factors will be taken into consideration in the evaluation of each bid:

Compliance with Pricing Basis.

The bid price will be determined on an aggregate basis by subtracting the proposed trade-in values, if applicable, from item 001 at the item description. If no trade in values are proposed, the aggregate pricing will be determined by the lowest priced bid received for item 001 only.

1.2.1 Pricing Basis

The bidder must quote firm unit prices in Canadian dollars, DDP Delivered Duty Paid (destination), the Goods and Services Tax (GST) and/or the Harmonized Sales Tax (HST) extra, as applicable. Freight charges to destination and all applicable Custom duties and Excise taxes must be included.

The bidder may submit a firm unit price for the trade-ins, including the cost of pick-up, as detailed in the item description.

2. Basis of Selection

A bid must comply with the requirements of the bid solicitation and meet all mandatory technical evaluation criteria to be declared responsive. The responsive bid with the lowest evaluated price on an aggregate basis, including the price of the trade-ins if applicable, will be recommended for award of a contract.

PART 5 - CERTIFICATIONS

Bidders must provide the required certifications and documentation to be awarded a contract.

The certifications provided by bidders to Canada are subject to verification by Canada at all times. 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 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 with this request will also render the bid non-responsive or will constitute a default under the Contract.

1. Mandatory Certifications Required Precedent to Contract Award

1.1 Code of Conduct and Certifications - Related documentation

By submitting a bid, the Bidder certifies that the Bidder and its affiliates are in compliance with the provisions as stated in Section 01 Code of Conduct and Certifications - Bid of Standard Instructions 2003. The related documentation therein required will assist Canada in confirming that the certifications are true.

1.2 Federal Contractors Program for Employment Equity - Bid Certification

By submitting a bid, the Bidder certifies that the Bidder, and any of the Bidder's members if the Bidder is a Joint Venture, is not named on the Federal Contractors Program (FCP) for employment equity "FCP Limited Eligibility to Bid" list (http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml) available from Human Resources and Skills Development Canada (HRSDC) - Labour's website. Canada will have the right to declare a bid non-responsive if the Bidder, or any member of the Bidder if the Bidder is a Joint Venture, appears on the "FCP Limited Eligibility to Bid" list at the time of contract award.

Canada will also have the right to terminate the Contract for default if a Contractor, or any member of the Contractor if the Contractor is a Joint Venture, appears on the "FCP Limited Eligibility to Bid" list during the period of the Contract.

The Bidder must provide the Contracting Authority with a completed annex Federal Contractors Program for Employment Equity - Certification, before contract award. If the Bidder is a Joint Venture, the Bidder must provide the Contracting Authority with a completed annex Federal Contractors Program for Employment Equity - Certification, for each member of the Joint Venture.

2. Additional Certifications Precedent to Contract Award

The certifications listed below should be completed and submitted with the bid, but may be submitted afterwards. If any of these required certifications is not completed and submitted as requested, the Contracting Authority will 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.

3. General Environmental Criteria Certification

By submitting the bid, the bidder certifies that the information submitted in the General Environmental Criteria table found at Annex A is accurate and complete.

By submitting the bid the Bidder certifies that it meets, and will continue to meet throughout the duration of any resulting contract, a minimum of four out of seven requirements identified in the General Environmental Criteria Table found at Annex A;

Additional Information

The Bidder must complete Annex A by inserting a checkmark next to every criteria that are met. Bidders are required to complete and submit Annex A with their bid. As this is a new procedure, Canada reserves the right to request Annex A after bid closing. The Contracting Authority will inform the Bidder of a time frame within which to provide it. Failure to provide Annex A within the required time frame will render the bid non-responsive.

PART 6 - RESULTING CONTRACT CLAUSES

1. Security Requirement

There is no security requirement associated with the requirement.

2. Requirement

The contractor will be required to provide the goods in accordance with the technical requirements and in the quantities stated herein at **ANNEX B – STATEMENT OF REQUIREMENT**

If applicable, the contractor must also take away one (1) AGIE 150F (Serial Number 634.007) as a trade-in

2.1 SACC Manual Clauses

SACC Reference	Section	Date
B1501C	Electrical Equipment	2006-06-16
B7500C	Excess Goods	2006-06-16

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.

3.1 General Conditions

2010A (2014-03-01), General Conditions - Goods (Medium Complexity), apply to and form part of the Contract.

3.2 SACC Manual Clauses

SACC Reference	Section	Date
1111		
C2800C	Priority Rating	2013-01-28
C2801C	Priority Rating - Canadian Contractors	2011-05-16

4. Term of Contract

4.1 Delivery Date

All the deliverables must be received on or before _____ (Delivery as offered and as accepted will be inserted at contract award)

5. Authorities

5.1 Contracting Authority

The Contracting Authority for the Contract is:

Carlos Lee

Public Works and Government Services Canada

Acquisitions Branch

Logistics, Electrical, Fuel and Transportation Directorate

"HN" Division

7B3, Place du Portage, Phase III

11 Laurier Street

Gatineau, QC, K1A 0S5

Telephone: (819) 956-3490

Facsimile: (819) 953-4944

E-mail address: Carlos.lee@pwgsc-tpsgc.gc.ca

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



5.2 Contractor's Representative

Name and telephone number of the person responsible for:

General Enquiries

Name: will be inserted at contract
Telephone: will be inserted at contract
Facsimile: will be inserted at contract
E-mail: will be inserted at contract

Delivery Follow-up

Name: will be inserted at contract
Telephone: will be inserted at contract
Facsimile: will be inserted at contract
E-mail: will be inserted at contract

6. Payment

6.1 Basis of Payment

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid a firm unit prices, as specified in the contract. 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.

6.2 Limitation of Price

SACC Manual clause C6000C (2011-05-16) Limitation of Price

6.3 Single Payment

SACC Manual clause H1000C (2008-05-12) Single Payment

6.4 SACC Manual Clauses

SACC Reference	Section	Date
G1005C	Insurance	2008-05-12

7. Invoicing Instructions

- (a) one (1) copy must be forwarded to the consignee.
- (b) The original and one (1) copy must be forwarded to the following address for certification and payment.

Department of National Defence
101 Colonel By Dr.
Ottawa, ON
K1A 0K2
Attention: Chantal Trudel QETE/NPB

- (c) One (1) copy must be forwarded to the Contracting Authority identified under the section entitled "Authorities" of the Contract.
Department of Public Works and Government Services
"HN" Division
7B3 Place du Portage, Phase III
11 Laurier Street
Gatineau, QC
K1A 0S5
Attention: Carlos Lee

8. Certifications

8.1 Compliance

Compliance with the certifications and related documentation provided by the Contractor in its bid is a condition of the Contract and subject to verification by Canada during the term of the Contract. If the Contractor does not comply with any certification, provide the related documentation 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.

9. Applicable Laws

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

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) 2010A (2014-03-01) General Conditions – Goods (Medium Complexity);
- (c) Requirement;
- (d) Annex A - General Environmental Criteria Table
- (e) Annex B - Statement of Requirements
- (f) Annex C - Compliancy Matrix
- (g) the Contractor's bid dated _____

11. Defence Contract

SACC Manual clause A9006C (2012-07-16) Defence Contract

12. SACC Manual Clauses

SACC Reference	Section	Date
D5545C	ISO 9001:2008 - Quality Management Systems - Requirements (Quality Assurance Code C)	2010-08-16

13. SACC Manual Clauses (Delivery)

SACC Reference	Section	Date
D2000C	Marking	2007-11-30
D2001C	Labelling	2007-11-30
D6010C	Palletization	2007-11-30
D3015C	Dangerous Goods/Hazardous Products	2007-11-30
D9002C	Incomplete Assemblies	2007-11-30

13.1 Shipping Instructions - Delivery at Destination

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

Delivered Duty Paid (DDP) (Gatineau, QC) Incoterms 2000 for shipments from a commercial contractor.

Annex A - General Environmental Criteria Table

The Contractor must meet and continue to meet four out of seven criterions during the entire duration of the contract.

Green practices within supplier's organization:	Insert a checkmark for each criteria that is met
Promotes a paperless environment through directives, procedures and/or programs.	
All documents are printed double sided and in black and white for day to day business activity unless otherwise specified by your client.	
Paper used for day to day business activity has a minimum of 30% recycled content and has a sustainable forestry management certification.	
Utilizes environmentally preferable inks and purchase remanufactured ink cartridges or ink cartridges that can be returned to the manufacturer for reuse and recycling for day to day business activity.	
Recycling bins for paper, newsprint, plastic and aluminum containers available and emptied regularly in accordance with local recycling program.	
A minimum of 50% of office equipment has an energy efficient certification.	
Registered to ISO 14001 or has an equivalent environmental management system in place	

Annex B - Statement of Requirements

Wire Electrical Discharge Machine (WEDM) **Performance Specifications**

1 General Description:

- 1.1 The description covers a 4-1/2 or 5 Axis Computer Numerically Controlled (CNC) WEDM, having Cutting Wire size .013" -.002". It must accept Workpiece Dimensions (L x W x H) 41x25x16.5in, Axis Travel (X, Y, Z) 19.5x13.5x16.5 in, Axis Travel (U, V) ± 2.75 in, it must occupy a floor space with WEDM Dimensions no larger than 77x 91x 105 in. The WEDM must be capable to perform angular cutting and automatic wire threading. It must be cooled with a chiller type, compressor cooling system, and have a systems control unit. The System must also comprise of a Liquid cooled flushing Pump and a Liquid cooled electrical cabinet.
- 1.2 Prior to installation, disassembly and removal of one (1) trade-in WEDM model AGIE 150F (Serial # 634.007) at DND/QETE, includes the removal of the machine and its accessories, from DND-QETE, GATINEAU (Hull Sector), Quebec that is located in the Workshops, second floor, Room C2119, on the premises. Access is via freight elevator capacity measurements, that measures the maximum openings as follows: 86 inches wide x 170 inches deep x 120.5 inches high at 12000 lbs capacity.

2 Requirements:

- 2.1 The Contractor must provide the provide the following: Turn-key operation for a WEDM with all of the items/functions as described herein, together with all other apparatus, cables, materials, design and installation labour, software, cable labels, tools, transportation, and any other resources necessary to provide a complete system. The contractor must provide all tools, equipment and testing devices to implement all aspects required to install the equipment. This includes any electrical transformers, filtration system (Eco Logic 1200) and wiring from main building electrical power supply as well as any air line and water line and wiring from main building electrical power supply as well as any air line and water line connections or any other associated items or services that are required for installation and operation of the WEDM install at DND/QETE.
- 2.2 1 (One): Computer Numerically Controlled (CNC) 4-1/2 or 5 Axis WEDM, Agie AC Progress VP 3 or equivalent having Cutting Wire size .013" -.002". The system must be capable of performing angular cutting and automatic wire threading. It must be cooled with a Chiller type compressor cooling system and have a system control unit. The System must also comprise of a Liquid cooled flushing Pump, a Liquid cooled electrical cabinet, a conversational screen terminal, an erosion power supply with microprocessor control and a logic and automatic current control.
- 2.3 1 (One): Trade-in of a AGIE 150F (Serial # 634.007)

3 Mandatory Minimum Specifications of the WEDM:

- 3.1 The machine must have wire sizes range from .013” -.002” of an inch.
- 3.2 The machine must have a system to reduce stress on the wire when cutting tapers.
- 3.3 Minimum axis Travel (X, Y, Z) 19.5 x 13.5 x 16.5 inches, Axis Travel (U, V) ± 2.75 inches.
- 3.4 Permissible Workpiece Weight (un-submerged) 1,700 pounds or better.
- 3.5 Permissible Workpiece Weight (submerged) 800 pounds or better.
- 3.6 Threadable Height 16.5 inches or better.
- 3.7 It must occupy a floor space no larger than 77 x 91 x 105 inches.
- 3.8 It must have a wire spool capacity of at least 55 pounds.
- 3.9 It must have a wire chopper with waste receptacle.
- 3.10 It must have 3D Setup Z axis probing measurement.
- 3.11 The WEDM must be capable to perform angular cutting.
- 3.12 The WEDM must have automatic wire threading.
- 3.13 It must be cooled by a compressor cooling system.
- 3.14 It must have a systems control unit.
- 3.15 The WEDM must comprise of a liquid cooled flushing pump, and a liquid cooled electrical cabinet.
- 3.16 It must have a conversational screen terminal, which controls erosion power, microprocessor, logic and automatic current.

4 CUTTING CAPABILITY:

- 4.1 Machine must perform unattended operation. The controller must automatically detect the need for, and perform the following: wire threading with user define retries, filter switching, wire tensioning, and wire current and flushing adjustment.
- 4.2 Machine must provide a cutting surface finish of .000004 of an inch [0.1 μm] or better for a cut thickness minimum 2 inches.
- 4.3 Machine must be designed to allow a transition from submerged cutting to non-submerged cutting and vice-versa without changing clamping or alignment set-up, at all cutting angles.
- 4.4 Machine must perform automatic straight wire threading, for all wire types and sizes.



- 4.5 Machine must have a programmable workpiece pick-up function for centre find, edge find and corner find, at angles up to $\pm 30^\circ$, to repeatable accuracies of $\pm .000157$ of an inch [± 0.004 mm], measured as per VDI/DGQ 3441 (European standard) or NMTBA (US Standard).
- 4.6 Machine must have safety features designed to prevent short circuits to machine and operator.
- 4.7 Machine must have Z axis probing capabilities for automatic determination of workpiece plane and position.
- 4.8 Generator must deliver a finer spark gap for better part geometry and surface finish.
- 4.9 Must have capacity allowing cutting rate of 45 square-inches per hour with standard .013 of an inch coated wire or better.
- 4.10 Taper Angle cutting must have capability of 30 degrees on 3.93 inches (100mm) tall workpiece or better.
- 4.11 Surface Integrity must be resulting in no white layer (heat affected zone).

5 TABLE AND WIRE GUIDES:

- 5.1 Table must accept workpieces having maximum dimensions 41 inches long by 25 inches wide by 16.5 inches high or better.
- 5.2 Upper and lower guides must align to each other automatically such that no manual adjustment is required.
- 5.3 The following accuracy of fully programmable U, V, X and Y axes for full table travel must be met using VDI/DGQ3441 (European Standard) or NMTBA (US Standard).
- 5.4 Position Deviation - $.000197$ of an inch per minute [0.005 mm per minute] or better.
- 5.5 Mean Position Variation - 0.000118 of an inch per minute [0.003 mm per minute] or better.
- 5.6 Mean Reversal bi-directional error - $.000079$ of an inch per minute [0.002 mm per minute] or better.
- 5.7 Resolution of X, Y, U, V axes of $.000039$ of an inch [0.001 mm] or better.
- 5.8 Submerged cutting feed rate must have a range from 0 to 6 inches per minute (or better), for a 2-inch thick, steel section.

- 5.9 Wire sizes must range from .013 down to .002 of an inch without changing Universal V-guides.
- 5.10 Wire Guide Type Indexable Zero that must have clearance universal V-guides.
- 5.11 Universal V-guides must operate without necessitating wire changes.
- 5.12 Universal V-guides must have a non-clogging features and the ability to perform for up to 15,000 hours minimum.
- 5.13 Contacts must be of Diamond material and provide indexable capability.
- 5.14 Contacts life must have 4,000 hours minimum.
- 5.15 Four sided table must have a universal clamping frame.
- 5.16 Capability of Smart Threading option that must allow for auto-threading small wire diameters of .004" and less, in holes that are only .002" bigger than the wire diameter, and must include automatic start hole location detection.
- 5.17 Must have a 3D Set-up probing system feature that can be programmed off-line and executed unattended, checks the top surface of a workpiece, and programs the angle of the EDM wire to match the A/B angle of the workpiece. After the wire is square to the work being machined, the wire picks up a specified side surface and then rotates the program to match the C-skew of the block. The WEDM must use the wire to pick up a reference on the workpiece using one of the pick-up macros in the Control. These values are automatically loaded into the control under a specific file name or equivalent.
- 5.18 Must have a wire technology (parameters) for the use of two wires type in a single contour that takes advantage of the universal V-guide design to rough a part with a larger diameter wire and finish with a smaller diameter wire, allowing for minimum time taken for wire spool changeover to improve part cycle time and saves on wire cost.
- 5.19 Must have real time detection and correction of the wire bending.

6 CNC CONTROL:

- 6.1 The operating system must be a Windows Multitasking XP or Windows 7.
- 6.2 Must have a remote control for setup functions (electronic handwheel and LCD display).
- 6.3 The CNC Control System must have a minimum programmable step of 0.0001 mm (0.000004 in).
- 6.4 The CNC Control System must have an Interface RS232-C port and DNC/CNC capability for direct Transfer of programs which are larger than controller memory of the WEDM.

- 6.5 Contractor must provide all software and peripherals required for integrated DNC operation of the system.
- 6.6 The CNC Control System must be compatible with the most current versions of GibbsCam and Mastercam Software and as well as corresponding post-Processors including a machine library file must be provided.
- 6.7 The CNC Control System must have an RJ-45 connection interface with 10 /100 BASE-T (X) and one (1) USB 2.0 port minimum.
- 6.8 The CNC Control System must have a programming system for creation of 2D geometries and allows import of DXF and IGES files.
- 6.9 The CNC Control System must have a machining simulation 2D and 3D view.
- 6.10 The CNC Control System must have a permanent Hard Disk Drive with a minimum memory of 40GB.
- 6.11 The CNC Control System must have a minimum of 1 GB of RAM.
- 6.12 Operator Interface must have colour 15" LCD display screen (or larger), keyboard and mouse must be provided.
- 6.13 Control/Servo must have Resolution to be .000004 of an inch.
- 6.14 A complete listing of cutting parameters must be supplied in English, either on-line, on CD disks, or manuals, for cutting steel / carbide / copper / graphite / stainless steel, etc
- 6.15 Entire control cabinet must be sealed and protected from unwanted contaminants.
- 6.16 Control cabinet must have a system of internal temperature control to protect from overheating.
- 6.17 Control must have features that allow the operator to define machining sequences, or steps, independent of the CAM program, and to enable the operator to freely choose and optimize the erosion steps between multiple parts and/or geometries.
- 6.18 Control must have a feature that allows the "pausing" of a job in progress in order to "insert" and machine another (emergency) workpiece, with the click of a mouse. When finished, it is to have the capability to automatically return to the exact point where the previous job was paused and "resume" erosion.

7 SYSTEM:

- 7.1 Equipment must occupy a floor space of not more than 77 in. by 91 in. by 105 in. height.
- 7.2 Machine must not exceed a net weight 12,000 pounds.
- 7.3 Complete WEDM must be easily accessible, permitting easy layout for installation and replacement of defective components.

8 Commissioning:

- 8.1 The Technical Authority will confirm the performance of the system by performing a test of the mandatory requirements listed at Annex C. Upon completion of these tests the Contractor must notify the Technical Authority that the system is complete. The Technical Authority will, within five (5) days, generate a "Deficiency List" of omissions, adjustments, corrections and the like and respond in writing to the Contractor. Once the Contractor and the Technical Authority agree that all items on the "Deficiency List" have been rectified, the system will be considered operational.

9 Manuals and Documentation:

- 9.1 The Contractor must provide three (3) separate manuals each in paper/hardcopy format in **English** covering the following sections:
- 9.2 Operator Manuals; Qty three (3)
- 9.3 Parts Manuals; Qty three (3)
- 9.4 Maintenance Manuals; Qty three (3)
- 9.5 Electrical schematics ; Qty three (3)
- 9.6 Two (2) copies of the above manuals in PDF format.

10 Electrical and Safety Requirements:

- 10.1 The entire CNC WEDM must be supplied to DND/QETE with a Canadian Standards Association (CSA) certified sticker and Underwriters Laboratories of Canada (ULC) approval sticker, or an equivalent acceptable certificate.
- 10.2 Safety and Operation Labelling.
- 10.3 Any pinch points, hazards areas, operator safety concerns, and moving components must clearly be labelled in English.
- 10.4 Operating instruction labels are clearly identified and printed in English.



10.5 All electrical services are to be provided as part of the package in conjunction with Public Works Canada as part of the "Turn-key Operation". It is essential that the personnel carrying out the work are licensed in the province of Quebec to carry out the electrical wiring and hook-up.

11 Packaging:

- 11.1 All machines, equipment, and accessories include with the WEDM must be packaged, crated, or boxed to ensure no damage is sustained by equipment during the transport, loading, unloading, or general handling of equipment prior to the final installation.
- 11.2 Any wooden crates, steel cages, or cardboard boxes which the unit or pieces of the unit are packaged and shipped in must be removed by the supplier at no additional cost to DND-QETE.

12 Installation and Training - Full Turn-key Operation:

- 12.1 **INSTALLATION:** Fully satisfactory performance of the integrated system must be demonstrated to QETE personnel before final invoices are to be processed for payment. This will include the function of the DNC and CNC control with all its features, materials cutting capabilities, table performance and operation as per mandatory requirements.
- 12.2 Contractor's Factory Service Representative (FSR) must be responsible for the installation, levelling, securing, initial start up, and calibration of machine.
- 12.3 Contractor must provide operator and maintenance training in English of the supplied machine to Workshop Personnel. Maintenance and Operator training must commence within five (5) days of the completion of the machine Installation. Training must be provided for up to five (5) persons for a minimum of forty (40) total hours or five (5) days at eight (8) hours per day. Training must be provided consecutively and may only be interrupted by a normal weekend.

13 Delivery, installation, removal of existing machine and all deliverables are to be Turn-key operation

- 13.1 This includes any electrical transformers and all wiring from main building electrical power supply as well as any air line and water line connections or any other associated items or services that are required for the installation, decommission and operation of the equipment delivered to room C2119, 2nd floor, NPB building, 45 Sacre Coeur, Blvd, Gatineau, Quebec.
- 13.2 QETE will not assume any responsibility nor incur any cost in person hours, materials, or tooling associated with the delivery and installation.
- 13.3 The equipment must be transported to and from the second floor utilizing the building freight elevator that measures the openings as follows: 86 inches wide x 170 inches deep x 120.5 inches high at 12,000 lbs capacity.

14 Applicable Canadian provincial/federal industry standards and codes.

14.1 Adherence to all applicable Canadian provincial/federal industry standards and codes, specifically, the Canadian Standards Association (CSA), and Underwriters Laboratories Canada (ULC).

15 ACCESSORIES:

15.1 Machine must come equipped with all the standard tools and accessories normally associated with this type of equipment, and the following wire EDM tooling and related components.

15.2 Replacement parts are to be included in 3,000 hour parts kit. In addition, the consumables listed below must be provided.

15.3 Five (5) Sets of replacement filters.

15.4 Two (2) sets of wire guides must be provided to accommodate the wire sizes listed below.

15.5 Two (2) cubic feet of Resin.

15.6 55 pounds wire spools of each of the following:

<u>Wire Type</u>	<u>SizeQuantity</u>
Cobra D	.013 inch3 spools
Cobra D	.006 inch3 spools
Cobra D	.004 inch3 spools
Cobra A	.010 inch3 spools
Cobra A	.006 inch3 spools
Cobra A	.004 inch3 spools
Cobra B	.010 inch3 spools
Cobra B	.006 inch3 spools
Cobra B	.004 inch3 spools
Cobra B	.002 inch 3 spools

Annex C – Compliancy Matrix

Item Number	Mandatory Requirement	Compliant /Non Compliant	Please indicate where in your proposal this condition is met	Comments
3.1	The machine must have wire sizes range from .013” -.002” of an inch.			
3.2	The machine must have a system to reduce stress on the wire when cutting tapers.			
3.3	Minimum axis Travel (X, Y, Z) 19.5 x 13.5 x 16.5 inches, Axis Travel (U, V) ± 2.75 inches			
3.4	Permissible Workpiece Weight (un-submerged) 1,700 pounds or better			
3.5	Permissible Workpiece Weight (submerged) 800 pounds or better			
3.6	Threadable Height 16.5 inches or better			
3.7	It must occupy a floor space no larger than 77 x 91 x 105 inches.			
3.8	It must have a wire spool capacity of at least 55 pounds			
3.9	It must have a wire chopper with waste receptacle.			
3.10	It must have 3D Setup Z axis probing measurement.			
3.11	The WEDM must be capable to perform angular cutting.			
3.12	The WEDM must have automatic wire threading.			
3.13	It must be cooled by a compressor cooling system			
3.14	It must have a systems control unit			

3.15	The WEDM must comprise of a liquid cooled flushing pump, and a liquid cooled electrical cabinet			
3.16	It must have a conversational screen terminal, which controls erosion power, microprocessor, logic and automatic current			
4.1	Machine must perform unattended operation. The controller must automatically detect the need for, and perform the following: wire threading with user define retries, filter switching, wire tensioning, and wire current and flushing adjustment			
4.2	Machine must provide a cutting surface finish of .000004 of an inch [0.1 μm] or better for a cut thickness minimum 2 inches			
4.3	Machine must be designed to allow a transition from submerged cutting to non-submerged cutting and vice-versa without changing clamping or alignment set-up, at all cutting angles			
4.4	Machine must perform automatic straight wire threading, for all wire types and sizes			
4.5	Machine must have a programmable workpiece pick-up function for centre find, edge find and corner find, at angles up to $\pm 30^\circ$, to repeatable accuracies of $\pm .000157$ of an inch [± 0.004 mm], measured as per VDI/DGQ 3441 (European standard) or NMTBA (US Standard).			
4.6	Machine must have safety features designed to prevent short circuits to machine and operator			



4.7	Machine must have Z axis probing capabilities for automatic determination of workpiece plane and position			
4.8	Generator must deliver a finer spark gap for better part geometry and surface finish.			
4.9	Must have capacity allowing cutting rate of 45 square-inches per hour with standard .013 of an inch coated wire or better			
4.10	Taper Angle cutting must have capability of 30 degrees on 3.93 inches (100mm) tall workpiece or better			
4.11	Surface Integrity must be resulting in no white layer (heat affected zone).			
5.1	Table must accept workpieces having maximum dimensions 41 inches long by 25 inches wide by 16.5 inches high or better			
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5.3	The following accuracy of fully programmable U, V, X and Y axes for full table travel must be met using VDI/DGQ3441 (European Standard) or NMTBA (US Standard).			
5.4	Position Deviation - .000197 of an inch per minute [0.005 mm per minute] or better			
5.5	Mean Position Variation - 0.000118 of an inch per minute [0.003 mm per minute] or better			
5.6	Mean Reversal bi-directional error - .000079 of an inch per minute [0.002 mm per minute] or better			



5.7	Resolution of X, Y, U, V axes of .000039 of an inch [0.001 mm] or better			
5.8	Submerged cutting feed rate must have a range from 0 to 6 inches per minute (or better), for a 2-inch thick, steel section			
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5.13	Contacts must be of Diamond material and provide indexable capability			
5.14	Contacts life must have 4,000 hours minimum			
5.15	Four sided table must have a universal clamping frame			
5.16	Capability of Smart Threading option that must allow for auto-threading small wire diameters of .004" and less, in holes that are only .002" bigger than the wire diameter, and must include automatic start hole location detection			



5.17	Must have a 3D Set-up probing system feature that can be programmed off-line and executed unattended, checks the top surface of a workpiece, and programs the angle of the EDM wire to match the A/B angle of the workpiece. After the wire is square to the work being machined, the wire picks up a specified side surface and then rotates the program to match the C-skew of the block. The WEDM must use the wire to pick up a reference on the workpiece using one of the pick-up macros in the Control. These values are automatically loaded into the control under a specific file name or equivalent			
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5.19	Must have real time detection and correction of the wire bending			
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6.2	Must have a remote control for setup functions (electronic handwheel and LCD display)			
6.3	The CNC Control System must have a minimum programmable step of 0.0001 mm (0.000004 in).			
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6.5	Contractor must provide all software and peripherals required for integrated DNC operation of the system			



6.6	The CNC Control System must be compatible with the most current versions of GibbsCam and Mastercam Software and as well as corresponding post-Processors including a machine library file must be provided			
6.7	The CNC Control System must have an RJ-45 connection interface with 10 /100 BASE-T (X) and one (1) USB 2.0 port minimum			
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6.17	Control must have features that allow the operator to define machining sequences, or steps, independent of the CAM program, and to enable the operator to freely choose and optimize the erosion steps between multiple parts and/or geometries			



6.18	Control must have a feature that allows the "pausing" of a job in progress in order to "insert" and machine another (emergency) workpiece, with the click of a mouse. When finished, it is to have the capability to automatically return to the exact point where the previous job was paused and "resume" erosion			
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7.2	Machine must not exceed a net weight 12,000 pounds			
7.3	Complete WEDM must be easily accessible, permitting easy layout for installation and replacement of defective components			
8.0	Commissioning			
9.0	Manuals and Documentation			
10.0	Electrical and Safety Requirements			
11.0	Packaging			
12.0	Installation and Training			
13.0	Delivery and Other Deliverables			
14.0	Provincial and Federal Industry Standards			
15.0	Accessories			