

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

SOLICITATION AMENDMENT
MODIFICATION DE L'INVITATION

The referenced document is hereby revised; unless otherwise indicated, all other terms and conditions of the Solicitation remain the same.

Ce document est par la présente révisé; sauf indication contraire, les modalités de l'invitation demeurent les mêmes.

Comments - Commentaires

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

Title - Sujet WIRE ELECTRIC DISCHARGE MACHINE	
Solicitation No. - N° de l'invitation W8486-151461/A	Amendment No. - N° modif. 002
Client Reference No. - N° de référence du client W8486-151461	Date 2015-01-12
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 2015-02-13	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:	

Instructions: See Herein

Instructions: Voir aux présentes

Delivery Required - Livraison exigée	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

Amendment 002 is raised to revise Annex B - Statement of Requirements, Annex C - Compliancy Matrix, to extend the closing date and to provide a new date for the site visit as follows:

Closing Date:

INSERT:

February 13, 2015

DELETE:

January 28, 2015

Part 2 - Bidder Instructions - Section 5 - Mandatory Site Visit

INSERT:

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 Friday, January 23, 2015). The site visit will begin at 10:00 am, in Room C-1113

Bidders must communicate with the Contracting Authority no later than Wednesday, January 21, 2015 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

DELETE:

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

All other terms and conditions remain unchanged.

Annex B - Statement of Requirement
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 airline and water line and wiring from main building electrical power supply as well as any airline 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) \pm 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 35 pounds or better.
- 3.9 It must have a wire chopper with waste receptacle.
- 3.10 The WEDM must be capable to perform angular cutting.
- 3.11 The WEDM must have automatic wire threading.
- 3.12 It must be cooled by a compressor cooling system.
- 3.13 It must have a systems control unit.
- 3.14 The WEDM must comprise of a liquid cooled flushing pump, and a liquid cooled electrical cabinet.
- 3.15 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 μ m] 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°, to repeatable accuracies of \pm .000157 of an inch [\pm 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 Taper Angle cutting must have capability of 30 degrees on 3.93 inches (100mm) tall workpiece or better.
- 4.10 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 The machine and guides must include the capability of using wire sizes in the range of .002 to .013 of an inch.
- 5.9 The guides must include non-clogging feature(s).
- 5.10 The guides must either: (a) not require changing due to their design e.g. V-guides; or (b) automatically change and thread without human intervention.
- 5.11 The guides must perform for at least 1'500 hours before requiring maintenance.
- 5.12 Guides must be of Diamond material and provide indexable capability.
- 5.13 Contacts life must have 4,000 hours minimum.

- 5.14 Four sided table must have a universal clamping frame.
- 5.15 Capability of Automatic 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.
- 5.16 Must have a Set-up probing system feature that can check the top surface of a workpiece, and set the angle of the EDM wire to match the A/B angle of the workpiece.
- 5.17 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 handheld 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 optimize the erosion steps/settings during the burn process.

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 Appendix C to this SOW. 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 35 pounds wire spools of each of the following:

<u>Wire Type</u>	<u>Size</u>	<u>Quantity</u>
Cobra D	.013 inch	3 spools
Cobra D	.006 inch	3 spools
Cobra D	.004 inch	3 spools
Cobra A	.010 inch	3 spools
Cobra A	.006 inch	3 spools
Cobra A	.004 inch	3 spools
Cobra B	.010 inch	3 spools
Cobra B	.006 inch	3 spools
Cobra B	.004 inch	3 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) \pm 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 35 pounds or better.			
3.9	It must have a wire chopper with waste receptacle.			
3.10	The WEDM must be capable to perform angular cutting.			
3.11	The WEDM must have automatic wire threading.			
3.12	It must be cooled by a compressor cooling system			
3.13	It must have a systems control unit			
3.14	The WEDM must comprise of a liquid cooled flushing pump, and a liquid cooled electrical cabinet			



3.15	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			
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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	Taper Angle cutting must have capability of 30 degrees on 3.93 inches (100mm) tall workpiece or better			
4.10	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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5.5	Mean Position Variation - 0.000118 of an inch per minute [0.003 mm per minute] or better			
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5.7	Resolution of X, Y, U, V axes of .000039 of an inch [0.001 mm] or better			
5.8	The machine and guides must include the capability of using wire sizes in the range of .002 to .013 of an inch.			
5.9	The guides must include non-clogging feature(s).			



5.10	The guides must either: (a) not require changing due to their design e.g. V-guides; or (b) automatically change and thread without human intervention.			
5.11	The guides must perform for at least 1'500 hours before requiring maintenance			
5.12	Contacts must be of Diamond material and provide indexable capability			
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6.1	The operating system must be a Windows Multitasking XP or Windows 7			
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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			
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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 optimize the erosion steps/settings during the burn process			
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			
8.0	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			

