



**RETURN BIDS TO:
RETOURNER LES SOUMISSIONS À:**

**Public Works and Government Services / Travaux
publics et services gouvernementaux**
Kingston Procurement
Des Acquisitions Kingston
86 Clarence Street, 2nd floor
Kingston
Ontario
K7L 1X3
Bid Fax: (613) 545-8067

**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

Vendor/Firm Name and Address

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

Issuing Office - Bureau de distribution

Public Works and Government Services / Travaux publics
et services gouvernementaux
Kingston Procurement
Des Acquisitions Kingston
86 Clarence Street, 2nd floor
Kingston
Ontario
K7L 1X3

Title - Sujet Nuclear Magnetic Resonance Spectrom	
Solicitation No. - N° de l'invitation W0114-165231/A	Date 2015-11-03
Client Reference No. - N° de référence du client W0114-16-5231	
GETS Reference No. - N° de référence de SEAG PW-\$KIN-519-6705	
File No. - N° de dossier KIN-5-44086 (519)	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2015-12-15	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: Choquette, Herb	Buyer Id - Id de l'acheteur kin519
Telephone No. - N° de téléphone (613) 536-4874 ()	FAX No. - N° de FAX (613) 545-8067
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: DEPARTMENT OF NATIONAL DEFENCE CFB Kingston 5 SOMME AVE, BLDG C36 KINGSTON Ontario K7K7B4 Canada	

Instructions: See Herein

Instructions: Voir aux présentes

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

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PART 1 - GENERAL INFORMATION

1.1 Introduction

The bid solicitation is divided into six parts plus attachments and annexes, as follows:

- Part 1 General Information: provides a general description of the requirement;
- Part 2 Bidder Instructions: provides the instructions, clauses and conditions applicable to the bid solicitation;
- Part 3 Bid Preparation Instructions: provides bidders with instructions on how to prepare their bid;
- Part 4 Evaluation Procedures and Basis of Selection: indicates how the evaluation will be conducted, the evaluation criteria that must be addressed in the bid, and the basis of selection;
- Part 5 Certifications: includes the certifications to be provided;
- Part 6 Resulting Contract Clauses: includes the clauses and conditions that will apply to any resulting contract.

The Annexes include the Requirement, the Basis of Payment and Bidders Forms.

1.2 Summary

- 1.2.1** The Department of Chemistry & Chemical Engineering at the Royal Military College of Canada requires a 400 MHz Nuclear Magnetic Resonance spectrometer (NMR) with a broad range of capabilities for identification and characterization of various nuclei (^1H , ^{19}F , ^{13}C , ^{31}P , etc.) for performing one and two dimensional NMR as well as other NMR spectroscopic techniques as detailed in Annex "A", Requirement, attached hereto.
- 1.2.2** The requirement is subject to the provisions of the World Trade Agreement on Government Procurement (WTO-AGP), the North American Free Trade Agreement (NAFTA), and the Agreement on Internal Trade (AIT).

1.3 Debriefings

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

PART 2 - BIDDER INSTRUCTIONS

2.1 Standard Instructions, Clauses and Conditions

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

Bidders who submit a bid agree to be bound by the instructions, clauses and conditions of the bid solicitation and accept the clauses and conditions of the resulting contract.

The 2003 (2015-07-03) Standard Instructions - Goods or Services - Competitive Requirements, are incorporated by reference into and form part of the bid solicitation.

2.1.1 SACC Manual Clauses

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

2.2 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 Enquiries - Bid Solicitation

All enquiries must be submitted in writing to the Contracting Authority no later than ten (10) calendar days before the bid closing date. Enquiries received after that time may not be answered.

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

2.4 Applicable Laws

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

2.5 Optional Site Visit

It is recommended 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 Royal Military College Sawyer Mod. 5, third floor, building 69 at 11 General Crerar Crescent, Kingston, Ontario on November 16, 2015. The site visit will begin at 10:00 a.m. EST in laboratory 3511.

Bidders are requested to communicate with the Contracting Authority no later than 3:00 p.m. EST November 13, 2015 to confirm attendance and provide the name(s) of the person(s) who will attend. Bidders may be requested to sign an attendance sheet. Bidders who do not attend or do not send a representative will not be given an alternative appointment but they will not be precluded from submitting a bid. 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

3.1 Bid Preparation Instructions

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

Section I: Financial Bid (one (1) hard copy)

Section II: Certifications (one (1) hard copy)

If there is a discrepancy between the wording of the soft copy and the hard copy, the wording of the hard copy will have priority over the wording of the soft 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) (<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: Financial Bid

- 3.1.1** Bidders must submit their financial bid in accordance with the Basis of Payment in Annex "B". The total amount of Applicable Taxes must be shown separately.

3.1.2 Exchange Rate Fluctuation

[C3011T \(2013-11-06\)](#), Exchange Rate Fluctuation

Section II: Certifications

Bidders must submit the certifications required under Part 5.

PART 4 - EVALUATION PROCEDURES AND BASIS OF SELECTION

4.1 Evaluation Procedures

- (a) Bids will be assessed in accordance with the entire requirement of the bid solicitation including the financial evaluation criteria.
- (b) An evaluation team composed of representatives of Canada will evaluate the bids.

4.1.1 Financial Evaluation

4.1.1.1 Mandatory Financial Criteria

The Bidder must provide firm lot pricing in Canadian currency for all items in Annex B entitled "Basis of Payment". The Bidder's pricing must not be indexed to any currency exchange rates or commercial index. The format of the Pricing Basis must not be altered.

The price of the bid will be evaluated in Canadian dollars, the Harmonized Sales Tax excluded, Delivered Duty Paid, Canadian Customs Duties and Excise Taxes included.

The Bidder's Firm Lot Price will be multiplied by the quantity to calculate the extended Firm Unit Pricing.

4.2 Basis of Selection

- 4.2.1** A bid must comply with all requirements of the bid solicitation to be declared responsive. The responsive bid with the lowest evaluated price will 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. Canada will declare a bid non-responsive, or will declare a contractor in default if any certification made by the Bidder is found to be untrue, whether made knowingly or unknowingly, during the bid evaluation period or during the contract period.

The Contracting Authority will have the right to ask for additional information to verify the Bidder's certifications. Failure to comply and to cooperate with any request or requirement imposed by the Contracting Authority will render the bid non-responsive or constitute a default under the Contract.

5.1 Certifications Required with the Bid

Bidders must submit the following duly completed certifications as part of their bid.

5.1.1 Declaration of Convicted Offences

As applicable, pursuant to subsection Declaration of Convicted Offences of section 01 of the Standard Instructions, the Bidder must provide with its bid, a completed [Declaration Form](http://www.tpsgc-pwgsc.gc.ca/ci-if/formulaire-form-eng.html) (<http://www.tpsgc-pwgsc.gc.ca/ci-if/formulaire-form-eng.html>), to be given further consideration in the procurement process.

5.2 Certifications Precedent to Contract Award and Additional Information

The certifications and additional information listed below should be submitted with the bid but may be submitted afterwards. If any of these required certifications or additional information is not completed and submitted as requested, the Contracting Authority will inform the Bidder of a time frame within which to provide the information. Failure to provide the certifications or the additional information listed below within the time frame specified will render the bid non-responsive.

5.2.1 Integrity Provisions – List of Names

Bidders who are incorporated, including those bidding as a joint venture, must provide a complete list of names of all individuals who are currently directors of the Bidder.

Bidders bidding as sole proprietorship, as well as those bidding as a joint venture, must provide the name of the owner(s).

Bidders bidding as societies, firms or partnerships do not need to provide lists of names.

5.2.2 Federal Contractors Program for Employment Equity - Bid Certification

By submitting a bid, the Bidder certifies that the Bidder, and any of the Bidder's members if the Bidder is a Joint Venture, is not named on the Federal Contractors Program (FCP) for employment equity "[FCP Limited Eligibility to Bid](http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml)" list (http://www.labour.gc.ca/eng/standards_equity/eq/emp/fcp/list/inelig.shtml) available from [Employment and Social Development Canada \(ESDC\) - Labour's](#) website.

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

5.2.3 OEM Certification

(a) Any Bidder that is not the Original Equipment Manufacturer (OEM) for every item of hardware proposed as part of its bid is required to submit the OEM's certification regarding the Bidder's authority to provide and maintain the OEM's hardware, which must be signed by the OEM (not the Bidder). No Contract will be awarded to a Bidder who is not the OEM of the hardware it proposes to supply to Canada, unless the OEM certification has been provided to Canada. Bidders are requested to use the OEM Certification Form included with the bid solicitation. Although all the contents of the OEM Certification Form are required, using the form itself to provide this information is not mandatory. For Bidders/OEMs who use an alternate form, it is in Canada's sole discretion to determine whether all the required information has been provided. Alterations to the statements in the form may result in the bid being declared nonresponsive.

(b) If the hardware proposed by the Bidder originates with multiple OEMs, a separate OEM certification is required from each OEM.

(c) For the purposes of this bid solicitation, OEM means the manufacturer of the hardware, as evidenced by the name appearing on the hardware and on all accompanying documentation.

5.2.4 Software Publisher Certification and Software Publisher Authorization

(a) If the Bidder is the Software Publisher for any of the proprietary software products it bids, Canada requires that the Bidder confirm in writing that it is the Software Publisher. Bidders are requested to use the Software Publisher Certification Form included with the bid solicitation. Although all the contents of the Software Publisher Certification Form are required, using the form itself to provide this information is not mandatory. For bidders who use an alternate form, it is in Canada's sole discretion to determine whether all the required information has been provided. Alterations to the statements in the form may result in the bid being declared non-responsive.

(b) Any Bidder that is not the Software Publisher of all the proprietary software products proposed in its bid is required to submit proof of the Software Publisher's authorization, which must be signed by the Software Publisher (not the Bidder). No Contract will be awarded to a Bidder who is not the Software Publisher of all of the proprietary software it proposes to supply to Canada, unless proof of this authorization has been provided to Canada. If the proprietary software proposed by the Bidder originates with multiple Software Publishers, authorization is required from each Software Publisher. Bidders are requested to use the Software Publisher Authorization Form included with the bid solicitation. Although all the contents of the Software Publisher Authorization Form are required, using the form itself to provide this information is not mandatory. For Bidders/Software Publishers who use an alternate form, it is in Canada's sole discretion to determine whether all the required information has been provided. Alterations to the statements in the form may result in the bid being declared non-responsive.

(c) In this bid solicitation, "Software Publisher" means the owner of the copyright in any software products proposed in the bid, who has the right to license (and authorize others to license/sub-license) its software products.

PART 6 - RESULTING CONTRACT CLAUSES

The following clauses and conditions apply to and form part of any contract resulting from the bid solicitation. (This sentence will be deleted from the contract)

6.1 Requirement

The Contractor agrees to supply to Canada, the goods and services described in the Contract, including the Statement of Requirement at Annex A, in accordance with, and at the prices set out in Annex B of the Contract.

6.2 Standard Clauses and Conditions

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

6.2.1 General Conditions

[2030 \(2015-09-03\)](#), General Conditions - Higher Complexity - Goods, apply to and form part of the Contract.

6.2.2 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.

6.3 Security Requirements

6.3.1 There is no security requirement applicable to this Contract.

6.4 Term of Contract

6.4.1 Delivery Date

All the deliverables must be received on or before March 31, 2016.

6.4.2 Shipping Instructions – FOB Destination and DDP

Incoterms 2000 "DDP Delivery Duty Paid", Kingston, Ontario

6.5 Authorities

6.5.1 Contracting Authority

The Contracting Authority for the Contract is:

Name: Herb Choquette
Title: Supply Team Leader
Public Works and Government Services Canada
Ontario Region
Kingston Procurement
Address: 86 Clarence Street, 2nd floor, Kingston, ON K7L 1X3

Telephone: 613-536-4874
Facsimile: 613-545-8067
E-mail address: Herb.Choquette@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

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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: **(Will be completed by Canada at the time of contract award)**

Name: _____
Title: _____
Organization: _____
Address: _____
Telephone: _____
Facsimile: _____
E-mail address: _____

The Technical 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

General enquiries:

Name: _____
Title: _____
Address: _____
Telephone: _____
Facsimile: _____
E-mail address: _____

Delivery follow-up:

Name: _____
Title: _____
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 a firm unit price, as specified in Annex B for a 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.

6.6.2 Limitation of Price

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

6.6.3 Single Payment

SACC Manual clause H1000C (2008-01-12) Single Payment

6.7 Invoicing Instructions

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

2. Invoices must be distributed as follows:

Use one of the following methods:

a) One (1) copy must be forwarded by facsimile or by E-mail to the invoicing address for certification and payment:

All invoices submitted must include the following information for processing

- ☐ Invoice date
- ☐ Invoice number
- ☐ Amount due (required currency specified)
- ☐ If prepaid by credit card, ensure that the invoice clearly indicated "Paid by Credit Card"
- ☐ Valid reference number (normally the purchase order number). This number is 10 numeric digits long or 9 alphanumeric digits

If you are unsure which reference number to include on your invoice, please contact the departmental representative listed on the purchase order or contract.

Should any of the information required for processing the payment be missing, the supplier's invoice will be returned at the discretion of and will remain unpaid until valid payment referencing is provided.

All invoices must be submitted using one of the following methods (only one copy of the invoice should be sent to the department):

1) Email (preferred method):

1. Departmental contact (project authority) identified in the contract can be cc'd on the email.
2. Suppliers are required to use PDF file format, as other formats are not compatible with and are not recognized by our systems.
3. PDF file name should not contains sign such as #, \$, % etc.
4. Only one invoice per PDF file can be recognized by our systems (an email can contain multiple PDF attachments). All supporting documents should be included within the invoice PDF file.
5. An automatic reply will be sent as notification that their e-mail has been received (and should be kept for reference on any later payment inquiries).
6. This e-mail address is to be used only for submitting invoices. Inquiries regarding payment status should be sent by e-mail to: **(Will be completed by Canada at the time of contract award)**

2) Fax: (Will be completed by Canada at the time of contract award)

- ☐ Suppliers sending invoices by fax are required to use the highest quality settings available, as low quality copies will not be accepted as valid for payment processing. The Invoice is required to be the first page and any supporting documents on the following pages. No fax cover sheet is required.
- ☐ This fax number is to be used only for submitting invoices. **Inquiries regarding payment status should be sent by e-mail to: (Will be completed by Canada at the time of contract award)**

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;
4003 (2010-08-16) Licensed Software and;
4004 (2013-04-25) Maintenance and Support Services for Licensed Software;
- (c) the general conditions 2030 (2015-09-03) Higher Complexity Goods;
- (d) Annex A, Requirement;
- (e) Annex B, Basis of Payment;
- (f) Annex C, Bidders Forms;
- (g) the Contractor's bid dated _____, *(insert date of bid)*

6.11 SACC Manual Clauses

B1501C (2012-07-16) Electrical Equipment
B7500C (2006-06-16) Excess Goods
G1005C (2008-05-12) Insurance
A9062C (2011-05-16) Canadian Forces Site Regulations

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File No. - N° du dossier
KIN-5-44086

Buyer ID - Id de l'acheteur
KIN519
CCC No./N° CCC - FMS No./N° VME

6.12 Hardware: With respect to the provisions of Supplemental General Conditions 4001:

Part III of 4001 applies to the Contract (Additional Conditions: Purchase)	[Yes]
Delivery Location and Installation Site	<i>As per Annex "B", Basis of Payment</i>
Contractor must deliver Hardware Documentation	[Yes]
Language of Hardware Documentation	English
Contractor must Install Hardware at time of Delivery	[Yes]
Hardware Warranty Period	<i>One year after acceptance of the deliverables. The guarantee applies to all the components of the device.</i>
Class of Maintenance Service	<i>On-Site Maintenance Service The required technical support is by telephone or by internet.</i>
Toll-free Telephone Number for Maintenance Service	<i>{to be completed with information from the Contractor at time of award}</i>
Website for Maintenance Service	<i>{to be completed with information from the Contractor at time of award}</i>

ANNEX "A", REQUIREMENT

General:

The Department of Chemistry & Chemical Engineering at the Royal Military College of Canada requires a 400 MHz Nuclear Magnetic Resonance spectrometer (NMR) with a broad range of capabilities for identification and characterization of various nuclei (^1H , ^{19}F , ^{13}C , ^{31}P , etc.) for performing one and two dimensional NMR as well as other NMR spectroscopic techniques. Among other requirements fully described below, this system should allow easy and convenient acquisition of high-resolution ^1H , ^{31}P , ^{19}F and ^{13}C NMR spectra on samples including those containing no deuterium, i.e. without ^2H lock. The ease and convenience of shimming on the ^1H signal is a critical requirement. Additional critical requirements include the high dynamic range of the receiver, reduction of quad images in the spectra, high signal to noise ratio, as well as high resolution supported by user friendly processing software and workstation. The ability to run X-nucleus decoupled ^1H NMR, as well as, direct C observe experiments with low liquid helium consumption (refill time >300 days or more) is mandatory.

The Supplier must provide a brand new 400 MHz NMR unit and all its components. A demo unit or refurbished unit is not acceptable. A demo unit is defined as an instrument that has been used by the company for the promotion or sale of the instrument.

There is an existing 300 MHz Varian NMR system, which includes 300 MHz Oxford Magnet and Mercury plus console equipped with normal 5 mm liquid probe which must be removed to enable the supplier to install the new system. Canada will quench the magnet to decommission the system prior to its removal. If the Supplier has provided a credit for the trade in of the 300 MHz Varian NMR system the Supplier will remove and retain the existing system. Otherwise Canada will remove and dispose of the system prior to the installation of the new system.

Accessories:

The proposed system must be equipped with the following components:

- 1. Super Conducting Magnet:** A new highly shielded 400 MHz super conducting magnet (9.39 Tesla) with standard bore (5cm) equipped with liquid helium transfer line and provision for pneumatic sample load/eject/spin. Magnet must have following criteria:
 - 1.1.** Reduced cryogen consumption: liquid helium (95 litres or less) hold time must be at least 300 days or more.
 - 1.2.** Liquid helium and liquid nitrogen monitors with a minimum accuracy of 4%
 - 1.3.** High performance shim and lock control, and shim system control
 - 1.4.** Small stray field such that the 5 gauss line (magnetic field) does not exceed 0.5 m horizontally and 1.00m vertically outside the instrument.
 - 1.5.** Complete set of cryoshims and room temperature shims
- 2. NMR Console/Spectrometer include all essential components including but not limited to the following:**
 - 2.1. Radio Frequency (RF) generator:**
 - 2.1.1.** Minimum of two RF channels (min. 6 MHz to 440MHz channel):
One $^1\text{H}/^{19}\text{F}$ RF channel and one broadband (X-nucleus ^{31}P - ^{109}Ag) enhanced RF generation channels
 - 2.1.2.** Full digital generation of offset frequencies and phases with (direct digital synthesis) for high accuracy and phase stability
 - 2.1.3.** Time controller with a minimum of 12.5 nsec timing resolution

2.2. Amplifier and Receiver:

- 2.2.1.** A digital detection receiver for high dynamic range, high digital resolution and large-bandwidth digital filtering
- 2.2.2.** High performance integrated analogue to digital converter
- 2.2.3.** Two linear RF transmitter amplifiers, not less than 50 Watts output for $^{19}\text{F}/^1\text{H}$, and up to 150 Watts (6 to 163 MHz) output for other nuclei

2.3. Preamplifier:

- 2.3.1.** Integrated Low-noise NMR signals preamplifier for ^1H , ^{19}F and X nuclei, with ^2D capability for lock and observe
- 2.3.2.** Broad band preamplifier

2.4. Gradient Shimming and Gradients:

- 2.4.1.** Digital ^2H lock system with low-noise ^2H preamplifier
- 2.4.2.** Rapid automated gradient shimming of NMR samples using ^2H or ^1H signals
- 2.4.3.** Ability to shim using ^1H (without ^2H lock) on samples containing no-deuterium
- 2.4.4.** Gradient shimming must be included.

2.5. Probe: System must include a multinuclear broad band probe which delivers the performance advantages of both the classic carbon (direct detection) probe and the highly sensitive proton (indirect detection) probe. It should provide all of the data required for classic structural analysis of organic molecules. It should also provide automatic tuning and matching accessory from ^{15}N to ^{31}P and ^{19}F with ^1H decoupling, single z gradients and lock. We request the probe performance be achieved with a single probe to improve productivity.

- 2.5.1.** A broadband observe high resolution 5mm probe fitted with an actively shielded single axis Z-gradient for 400 MHz standard-bore magnet
- 2.5.2.** Automatic tuning and matching ability with the use of computer control for various nuclei (^1H , ^{13}C , ^{31}P , ^{15}N and ^{19}F , etc.)
- 2.5.3.** Probe must be capable of proton detect with fluorine decouple and vice versa.
- 2.5.4.** Capable of broad range of variable temperature range of -150 to +150 °C, single Z gradients and lock
- 2.5.5.** Built in Gradient coil
- 2.5.6.** Be a 5 mm probe
- 2.5.7.** Be fitted with ^2H lock channel

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-
- 2.5.8.** Compatible with triple resonance inverse detect cryogenically cooled probe
- 2.5.9.** Probe performance sensitivity (signal to noise ratio) must be ^1H 500:1 (0.1 % ethylbenzene) and ^{13}C 260:1 (10% ethylbenzene)

2.5.10. Pulse width must be:

Nuclei	^1H	^{13}C
Pulse Width	$\leq 10\mu\text{s}$ Urea sample	$\leq 10\mu\text{s}$ (Urea sample)

2.6. NMR Experiments Capability:

- 2.6.1.** Instrument to perform the following experiments: standard ^1H and ^{13}C NMR, Various nuclei such as ^{31}P , ^{15}N , ^{19}F (proton coupled and decoupled fluorine NMR and vice versa), Distortionless Enhancement by Polarization Transfer (DEPT); and the following experiments, with and without pulsed field gradients: Heteronuclear Multiple Bond Correlation (HMBC), Heteronuclear Multiple Quantum Correlation (HMQC), Correlation spectroscopy (COSY), and Heteronuclear Single Quantum Coherence (HSQC).

3. Variable Temperature Control Unit:

- 3.1.** A digital temperature control unit under full computer control with accuracy of at least $\pm 0.2^\circ\text{C}$
- 3.2.** Capability of maximum temperature of 200°C

4. Processing System: An acquisition processor system for complete control of the spectrometer, with fast timing capability, pulse amplitude, phase and shape control, z-gradient control, and digital receiver control.

- 4.1.** The NMR System should provide time-corrected digital filters to improve the data quality and reduce post-acquisition processing errors.
- 4.2.** System must include verification software which optimizes the NMR system and generates the report from a single, easy-to-use user page/interface.
- 4.3.** All samples and software to run these tests must be included with the system.
- 4.4.** Optimizing the system's room temperature shims to meet all of the probe's specifications, even if the system has no starting shim values or other calibrations.

5. NMR Software Package: A comprehensive software package running from the host processor system for spectrometer control, data acquisition, data display, processing and printout.

- 5.1.** Must include all the capabilities for acquisition and processing of various NMR data (1D, 2D, 3D and 4D NMR)
- 5.2.** Include plot, NMR guide, media and on line manual
- 5.3.** Provide options and the details for off-line data processing

6. Work Station and Operating System: must be equipped with

6.1. Main workstation including computer, and operating system:

- 6.1.1.** High performance interface to permit complete operation
- 6.1.2.** Minimum 4GB RAM and 500 GB disk storage
- 6.1.3.** DVD±RW/CD-RW drive (including software)
- 6.1.4.** Minimum Windows 7 operating system
- 6.1.5.** Minimum 2 LAN 10/100/1000 ethernet adapters

6.2. Minimum 24" high-resolution monitor

6.3. Necessary accessories such as keyboard, mouse, etc.

6.4. A LaserJet printer for spectral print-out

6.5. Computer table

7. Other Accessories:

7.1. Must include sample holder and spinner

7.2. Set of standard samples for benchmarking and running NMR verification software, multinuclear sensitivity, and resolution and line shape.

8. Safety: Instrument enclosure must be compliant with Canadian regulations (CSA or equivalent) for magnet, electrical & mechanical safety.

9. Manuals and Accessories:

9.1. Complete set of Instruction Manuals in English and French

9.2. Must include all necessary accessories to make functioning NMR system

10. Delivery and Installation:

10.1. Instrument to be delivered on-site by March 15/2016

10.2. Full installation and operational training must be conducted by a qualified person and completed by March 31/2016

10.3. All labour, delivery, installation and travel costs must be included in the price.

11. Operation Training and Support:

11.1. Minimum of 7.5 hours of onsite operator training for at least three people after installation.

11.2. Off- site training courses tuition such as operation and maintenance training for the instrument manager at the vendor's facilities (excluding travel and lodging cost).

11.3. Providing at no additional charge a minimum of one year of local application and support service (the response not to exceed 48 hours) in case of technical problems and potential repair.

12. Cryogenics, Gases and Equipment for Installation:

12.1. All required cryogenics, gases and rigging equipment needed for installation must be included in the price and supplied by the company.

13. Warranty:

- 13.1.** One year full on-site warranty from the date of the completion of the installation (including all parts, labour and travel cost)

14. Two year Service Contract:

- 14.1.** Additional two year service contract covering all parts (excluding the magnet) and service support to be provided after the warranty expires.
- 14.2.** Service contract to include scheduled maintenance, full telephone and email support and unscheduled maintenance in case of technical/software problem
- 14.3.** Full maintenance and problem solving with regards to console, probe, accessories and software (excluding the magnet)

15. Spatial and Electrical Requirements: Instrument provided must be compatible with the following site specifications:

- 15.1.** Standard 15 A and 20 A 110V electrical receptacles
- 15.2.** In house Air pressure Max 80 to 100 psi
- 15.3.** Electrical outlet of single phase 208V, 20 A, single phase for NMR Console
- 15.4.** Due to space limitation unit must have small stray field such that magnet does not exceed 0.5 m horizontal and 1.0 m vertical from the magnetic center.

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ANNEX "B", BASIS OF PAYMENT

Firm lot prices, all inclusive, in Canadian funds, Delivered Duty Paid "DDP" to Royal Military College Kingston, Ontario, including supply, delivery, installation and training. Prices included Canadian customs duties and excise taxes as applicable and Taxes Extra.

Firm Requirement:

Item	Description	Quantity	Firm Lot Prices
1.0	Supply and Install a 400 MHz Nuclear Magnetic Resonance spectrometer (NMR) with all required accessories in accordance with Annex "A".	1 Lot	\$ _____
2.0	Two year Service Contract	1 Lot	\$ _____
3.0	Minimum of 7.5 hours of onsite operator training for at least three people after installation.	1 Lot	\$ _____
4.0	Credit for trade-in of existing 300 MHz Varian NMR system.	1 Lot	-\$ _____

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ANNEX "C", BIDDER FORMS

Form 1

Software Publisher Authorization Form

(to be used where the Bidder itself is the Software Publisher)

The Bidder certifies that they are the software publisher of all the following software products and components and that it has all the rights necessary to license them (and any nonproprietary sub-components incorporated into the software) on a royalty-free basis to Canada:

List of all Software Products

[Bidder should add or remove lines as needed.]

Note: "Software Publisher" means the owner of the copyright in any software included in the Contract, who has the right to license (and authorize others to license/sub-license) its software products.

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Form 2

Software Publisher Authorization Form

(to be used where the Bidder is not the Software Publisher)

This confirms that the software publisher identified below has authorized the Bidder named below to license its proprietary software products under any contract identified below. The software publisher acknowledges that no shrink-wrap or click-wrap or other terms and conditions will apply, and that the contract (as amended from time to time by its parties) will represent the entire agreement, including with respect to the license of the software products of the software publisher listed below. The software publisher further acknowledges that, if the method of delivery (such as download) requires a user to "click through" or otherwise acknowledge the application of terms and conditions not included in the contract, those terms and conditions do not apply to Canada's use of the software products of the software publisher listed below, despite the user clicking "I accept" or signalling in any other way agreement with the additional terms and conditions.

This authorization applies to the following software products:

[Bidder should add or remove lines as needed.]

Name of Software Publisher (SP) _____

Signature of authorized signatory of SP _____

Print Name of authorized signatory of SP _____

Print Title of authorized signatory of SP _____

Address for authorized signatory of SP _____

Telephone no. for authorized signatory of SP _____

Fax no. for authorized signatory of SP _____

Date signed _____

Contract Number _____

Name of Contractor _____

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Form 3

OEM Certification Form

This confirms that the original equipment manufacturer (OEM) identified below has authorization the Bidder named below to provide and maintain its products under any contract resulting from the bid solicitation identified below:

Name of OEM _____

Signature of authorized signatory of OEM _____

Print Name of authorized signatory of OEM _____

Print Title of authorized signatory of OEM _____

Address for authorized signatory of OEM _____

Telephone no. for authorized signatory of OEM _____

Fax no. for authorized signatory of OEM _____

Date signed _____

Solicitation Number _____

Name of Bidder _____