

**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

E-mail/Courriel : mark.walton@tpsgc-pwgsc.gc.ca

Title - Sujet NUC. MAGNETIC RESONANCE SPECTROMET.	
Solicitation No. - N° de l'invitation W8486-162889/A	Date 2015-07-14
Client Reference No. - N° de référence du client W8486-162889	
GETS Reference No. - N° de référence de SEAG PW-\$\$PV-903-67656	
File No. - N° de dossier pv903.W8486-162889	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2015-08-24	
Time Zone Fuseau horaire Eastern Daylight Saving Time EDT	
F.O.B. - F.A.B. Specified Herein - Précisé dans les présentes	
Plant-Usine: <input type="checkbox"/> Destination: <input type="checkbox"/> Other-Autre: <input checked="" type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Walton, Mark	Buyer Id - Id de l'acheteur pv903
Telephone No. - N° de téléphone (819) 956-3813 ()	FAX No. - N° de FAX () -
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: DEPARTMENT OF NATIONAL DEFENCE c/o QETE WAREHOUSE 819-994-1819 RAMP 8, ROOM C-1113 45 SACRE COEUR BOULEVARD GATINEAU Quebec J8X 1C6 Canada	

Instructions: See Herein

Instructions: Voir aux présentes

Vendor/Firm Name and Address

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

Issuing Office - Bureau de distribution

Scientific, Medical and Photographic Division / Division de
l'équipement scientifique, des produits photographiques et
pharmaceutiques
11 Laurier St./ 11 rue, Laurier
6B1, Place du Portage
Gatineau, Québec K1A 0S5

Delivery Required - Livraison exigée 2016-03-31	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



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	NUCLEAR MAGNETIC RESONANCE SPECTROMETER, IN ACCORDANCE WITH THE MANDATORY TECHNICAL EVALUATION CRITERIA AND STATEMENT OF WORK AT ANNEXES A AND B	W8486	W8486	1	Each	\$		2016-03-31	

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Amd. No. - N° de la modif.

File No. - N° du dossier

pv903W8486-162889

Buyer ID - Id de l'acheteur

pv903

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NUCLEAR MAGNETIC RESONANCE SPECTROMETER

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NUCLEAR MAGNETIC RESONANCE SPECTROMETER

PART 1 - GENERAL INFORMATION

1.1 Security Requirements

There is no security requirement associated with this bid solicitation.

1.2 Requirement

The Contractor must provide the items detailed under the "Line Item Detail", and further detailed under the "Statement of Work" at Annex "A".

1.3 Debriefings

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

1.4 Trade Agreements

"The requirement is subject to the provisions of the World Trade Organization Agreement on Government Procurement (WTO-AGP), the North American Free Trade Agreement (NAFTA), and the Agreement on Internal Trade (AIT)."

PART 2 - BIDDER INSTRUCTIONS

2.1 Standard Instructions, Clauses and Conditions

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

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

The 2003 (2015-07-03) 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) days

2.2 Submission of Bids

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

2.3 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.

PART 3 - BID PREPARATION INSTRUCTIONS

3.1 Bid Preparation Instructions

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

- Section I: Technical Bid - Two (2) hard copies
- Section II: Financial Bid - One (1) hard copy
- Section III: Certifications - At least one (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) (<http://www.tpsgc-pwgsc.gc.ca/ecologisation-greening/achats-procurement/politique-policy-eng.html>). To assist Canada in reaching its objectives, Bidders should:

- 1) use 8.5 x 11 inch (216 mm x 279 mm) paper containing fibre certified as originating from a sustainably-managed forest and containing minimum 30% recycled content; and
- 2) use an environmentally-preferable format including black and white printing instead of colour printing, printing double sided/duplex, using staples or clips instead of cerlox, duotangs or binders.

Section I: Technical Bid

In their technical bid, bidders should explain and demonstrate how they propose to meet the requirements and how they will carry out the Work.

1.1.1 Installation

On-site installation must be provided and shall be carried out by a qualified service technician.

State your best installation schedule. Installation will be carried out within thirty (30) calendar days of delivery and be completed within _____ calendar days.

1.1.2 Manuals

Manuals are considered a part of the equipment. One (1) operator and one (1) service manual (paper or CD-ROM format), in English, must be sent together with the equipment.

1.1.3 Training

On-site user training must be provided for up to seven (7) users. All costs associated with the on-site training must be included in the price.

On-site training will be completed within thirty (30) calendar days of installation and commissioning. Provide complete details of training e.g. duration, scope, etc,

1.1.4 Service

Purchase of the system must include: regional technical support; technical phone support; support via the Internet; and support via a fax-back document system.

Response for service shall be within 24 hours or less.

Also, provide the following with your bid:

a) Location of available service facilities (after sales service and repair). List the service facilities closest to the destination.

b) Locations of available replacement parts from consumables to major components.

c) Response time re: service calls, and escalation schedule, i.e. (how many days with no resolution to a problem until a more experienced person is called in, and from which location).

d) List the frequency of routine maintenance visits provided by a qualified service technician during the warranty period, if applicable and included in the price.

1.1.5 Product(s) Offered

The Bidder must indicate the make and model number of the products offered (identify specific components which make up the system):

Name of Manufacturer: _____

Model/Part Number: _____

Literature attached: Yes (____) No (____)

1.1.6 Delivery

While delivery is requested by **March 31, 2016**, the best delivery that could be offered by the Bidder is _____.

1.1.7 Software Upgrades

The contractor shall provide all software updates and new releases to the purchaser for a period of one (1) year following the acceptance, at no additional cost.

Note: The word "updates" means all enhancements, extensions or other modifications to the software. The word "releases" means enhancements or modifications to the software or new modules or supplementary modules that function in conjunction with the software, that represent the next generation of software, and which the Contractor has decided to make available to its customers usually for an additional charge.

1.1.8 Contacts

Bidders are requested to provide the following: Information pertaining to Article 5.3 Contractor Representatives under Part 6, Resulting Contract Clauses.

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.

3.1.1 Exchange Rate Fluctuation

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

Section III: 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 technical and financial evaluation criteria.
- (b) An evaluation team composed of representatives of Canada will evaluate the bids.

4.1.1 Technical Evaluation

Factors for Evaluation

1. PRICING BASIS (MANDATORY): Prices must be firm, DDP Delivered Duty Paid.
2. ABILITY TO MEET THE TECHNICAL REQUIREMENT (MANDATORY):
 - a) **For Items Defined by Specifications:** The bidder is requested to cross reference the mandatory technical criteria contained herein to their supporting technical documentation.
 - b) **Provision of Supporting Technical Documentation:** Supporting technical documentation for the stores offered shall be provided with the bid at time of bid closing. Technical brochures or technical data MUST be provided to verify compliancy to the technical mandatory specifications.
3. COMPLIANCE WITH THE TERMS AND CONDITIONS OF THIS REQUEST FOR PROPOSAL (MANDATORY)
4. FOR CANADIAN SUPPLIERS ONLY: Please note that the requirements of the Federal Contractors Program for Employment Equity may apply - see herein. (MANDATORY)

4.1.1.1 Mandatory Technical Criteria

- Technical Compliance
- Compliance with Pricing Basis
- Proposal complete and signed
- Employment Equity

4.1.2 Financial Evaluation

- SACC Manual Clause [A0222T](#) (2014-06-26), Evaluation of Price - Canadian / Foreign Bidders

4.2 Basis of Selection

4.2.1 SACC Manual Clause

SACC Reference	Title	Date
A0069T	Basis of Selection	2007-05-25

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](#), to be given further consideration in the procurement process.

5.2 Certifications Precedent to Contract Award and Additional Information

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

5.2.1 Integrity Provisions – 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.

PART 6 - RESULTING CONTRACT CLAUSES

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

6.1 Security Requirements

- 6.1.1 There is no security requirement applicable to this Contract.

6.2 Requirement

The Contractor must provide the items detailed under the "Line Item Detail", and further detailed under the Statement of Work at Annex "A".

Service

- a) Location of available service facilities (after sales service and repair). Service facilities closest to the destination.
- b) Locations of available replacement parts from consumables to major components.
- c) Response time re: service calls, and escalation schedule, i.e. (how many days with no resolution to a problem until a more experienced person is called in, and from which location).
- d) List the frequency of routine maintenance visits provided by a qualified service technician during the warranty period, if applicable and included in the price.

Installation

On-site installation must be provided and shall be carried out by a qualified service technician. Installation will be carried out within thirty (30) calendar days of delivery and be completed within _____ calendar days.

Manuals

Manuals are considered a part of the equipment. One (1) operator and one (1) service manual (paper or CD-ROM format), in English, must be sent together with the equipment.

Training

On-site user training must be provided for up to seven (7) users. On-site training will be completed within thirty (30) calendar days of installation and commissioning.

Software Upgrades

The contractor shall provide all software updates and new releases to the purchaser for a period of one (1) year following the acceptance, at no additional cost.

Note: The word "updates" means all enhancements, extensions or other modifications to the software. The word "releases" means enhancements or modifications to the software or new modules or supplementary modules that function in conjunction with the software, that represent the next generation of software, and which the Contractor has decided to make available to its customers usually for an additional charge.

6.3 Standard Clauses and Conditions

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

6.3.1 General Conditions

[2010A](#) (2015-07-03), General Conditions - Goods (Medium Complexity), apply to and form part of the Contract.

6.3.2 Supplemental General Conditions

- [4003](#) Supplemental General Conditions - Licensed Software (2010-08-16) and
- [4004](#) Supplemental General Conditions - Maintenance and Support Services for Licensed Software (2013-04-25)

apply to and form part of the Contract.

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6.3.2.1 Warranty Period - If "Optional Requirements" at article 2.2.5 of Statement of Work are Exercised

Section 15 of Supplemental General Conditions 4003 is amended by replacing the period of ninety (90) days by sixty (60) months.

All other provisions of the warranty section remain in effect.

6.4 Term of Contract

6.4.1 Delivery Date

All the deliverables must be received on or before *(date to be inserted at contract award)*.

6.5 Authorities

6.5.1 Contracting Authority

The Contracting Authority for the Contract is:

Mark Walton
Supply Officer
Public Works and Government Services Canada
Acquisitions Branch
Commercial Consumer Products Directorate
Scientific, Medical, and Photographic Division "PV"
6A2, Phase III, Place du Portage,
11 Laurier Street,
Gatineau, Quebec, Canada K1A 0S5
Telephone: 819-956-3813
Facsimile: 819-956-3814
E-mail address: mark.walton@tpsgc-pwgsc.gc.ca

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

6.5.2 Technical Authority: To be identified at contract award

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 Technical Authority, however the Technical 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

The telephone number, with extension if applicable, of the person responsible for:

General enquiries

Name: _____
Telephone No. _____
Facsimile No: _____
E-mail address: _____

Delivery Follow-up

Name: _____
Telephone No. _____
Facsimile No: _____
E-mail address: _____

6.6 Payment

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

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid the firm unit or lot price(s), as specified in the contract, for a cost of \$ *(amount to be inserted at contract award)*. Customs duties are included, and Applicable Taxes are extra.

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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 SACC Manual Clauses

SACC Reference	Title	Date
H1000C	Single Payment	2008-05-12

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:

(a) The original and one (1) copy must be forwarded to the address shown on page 1 of the Contract for certification and payment.

(b) One (1) copy must be forwarded to the Contracting Authority identified under the section entitled "Authorities" of the Contract.

6.8 Certifications

6.8.1 Compliance

The continuous compliance with the certifications provided by the Contractor in its bid and the ongoing cooperation in providing associated 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 associated 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.

- the Articles of Agreement;
- the supplemental general conditions [4003](#) Supplemental General Conditions - Licensed Software (2010-08-16) and [4004](#) Supplemental General Conditions - Maintenance and Support Services for Licensed Software (2013-04-25)
- the general conditions [2010A](#) (2015-07-03), General Conditions - Goods (Medium Complexity),
- Annex A, Statement of Work;
- the Contractor's bid dated _____

6.11 SACC Manual Clauses

SACC Reference	Title	Date
A2000C	Foreign Nationals (Canadian Contractor)	2006-06-16
A9062C	Canadian Forces Site Regulations	2011-05-16
B1501C	Electrical Equipment	2006-06-16
B7500C	Excess Goods	2006-06-16

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6.12 Shipping Instructions - Delivery at Destination

Goods must be consigned to the destination specified in the Contract and Delivered Duty Paid (DDP) Gatineau, Quebec, Incoterms 2000 for shipments from a commercial contractor.

ANNEX "A"

STATEMENT OF WORK

TIME DOMAIN – NUCLEAR MAGNETIC RESONANCE SPECTROMETER

NOTE: BIDDERS MUST INDICATE CLEARLY WHERE THEIR BID OR ANY ATTACHMENT THERETO STATES THAT THE ITEM(S) OFFERED MEET(S) EACH OF THE FOLLOWING MANDATORY SPECIFICATIONS. FAILURE TO DO SO, OR NON-COMPLIANCE WITH ANY OF THEM, WILL RENDER YOUR BID NON-RESPONSIVE.

1.0 SCOPE

1.1 Purpose.

The purpose of the Statement of Work (SOW) is to define the mandatory specifications that are required in regards to a Time Domain – Nuclear Magnetic Resonance (TD – NMR) Spectrometer which is to be procured for the Applied Science Section of the Quality Engineering Test Establishment.

1.2 Background.

The Time Domain – Nuclear Magnetic Resonance (TD – NMR) spectrometer is a powerful and versatile investigative tool that can be used to characterize polymeric (rubber, plastics and textile) materials. The chemical crosslink density, a critical property for thermoset rubber compounds, can be directly measured in CAF materials such as tires, O-rings, hoses and seals. Mechanical property characteristics such as stiffness and modulus, depends on the extent of chemical crosslinking. Degradative effects on rubber and plastic materials may also be measured and related to service life conditions. The integrity of thin polymer coatings can be assessed. In addition, TD-NMR can be used to assess the spin finish on textile fibres which can support the Soldier System and Clothing and Equipment Millennium Standard.

1.3 Terminology.

The terms used in this Statement of Work are as follows:

- QETE: Quality Engineering Test Establishment
- SOW: Statement of Work
- NPB: National Printing Building
- TD – NMR: Time Domain – Nuclear Magnetic Resonance

2.0 REQUIREMENTS

2.1 Training

2.1.1 3 day on site operation/maintenance training for a maximum of 7 users in English and/or French.

PROPOSAL REFERENCE: _____

2.2 Mandatory Technical Requirements of the TD – NMR spectrometer

2.2.1 Specification Requirements

2.2.1.1 The frequency range must be variable from 5- 65 MHz with a resolution less than 1 ppm

PROPOSAL REFERENCE: _____

2.2.1.2 The pulse programmer must be variable with a 20 ns timing resolution.

PROPOSAL REFERENCE: _____

2.2.1.3 The magnetic field strength must be 0.47 T. **PROPOSAL REFERENCE:** _____

2.2.1.4 The magnet system must have an air gap of at least 25 mm to accommodate sample tubes.

PROPOSAL REFERENCE: _____

2.2.2 Mandatory Physical Requirements and Accessories

2.2.2.1 The TD-NMR system must consist of an electronics housing unit, a central processor unit, a direct-digital RF Frequency generator including a pulse programmer, a 20Hz transmitter and a receiver/analog digital converter. **PROPOSAL REFERENCE:** _____

2.2.2.2 A 20 MHz probe assembly suitable for ^1H detection and measurements must be provided.

PROPOSAL REFERENCE: _____

2.2.2.3 A 19 MHz probe assembly suitable for ^{19}F detection and measurements must be provided.

PROPOSAL REFERENCE: _____

2.2.2.4 The analog digital converter must be a digital quadrature receiver with variable gain and a variable digital filter. **PROPOSAL REFERENCE:** _____

2.2.2.5 A tempering unit must be provided in order to change the probe head temperature within the range of -100 to 200°C. **PROPOSAL REFERENCE:** _____

2.2.2.6 A 20MHz absolute probe assembly for proton detection for spin finish and polymer coatings must be included. **PROPOSAL REFERENCE:** _____

2.2.2.7 The system must include an autosampler with one input rack and one pre-heating position.

PROPOSAL REFERENCE: _____

2.2.2.8 The system must include an aluminum block heater unit up to 200°C) with 32 holes for 10 mm diameter samples. **PROPOSAL REFERENCE:** _____

2.2.2.9 A set of 400 glass sample tubes 10 mm in diameter and 180 mm in length) must be included.

PROPOSAL REFERENCE: _____

2.2.2.10 A set of 100 glass sample tubes 18 mm in diameter and 180 mm in length) must be included.

PROPOSAL REFERENCE: _____

2.2.2.11 An autosampler gripper and input rack for 18 mm tubes must be provided.

PROPOSAL REFERENCE: _____

2.2.2.12 A cart must be provided to house the TD-NMR system.

PROPOSAL REFERENCE: _____

2.2.2.13 System must operate using a North American Standard 110 –120 VAC \pm 10%), 60 Hz electrical service **PROPOSAL REFERENCE:** _____

2.2.2.14 System must meet the CSA electrical requirements. **PROPOSAL REFERENCE:** _____

2.2.3 Mandatory Performance Requirements

2.2.3.1 The TD-NMR system must have in addition to its own control console an external controller, complete with all the required hardware keyboard, mouse, interface cards, cables, screen, printer and related). **PROPOSAL REFERENCE:** _____

2.2.3.2 The controller must allow the full control of the settings and the operation of the system, the acquisition, storage / retrieval and treatment of experimental data.

PROPOSAL REFERENCE: _____

2.2.3.3 The controller must include a fully licensed copy of the most current version of Microsoft Windows or related operating software with CD/DVD backup copy allowing reinstallation if required

PROPOSAL REFERENCE: _____

2.2.3.4 The software required for the full control of the settings and the operation of the system i.e. definition of pulse sequences, temperature control), the acquisition, storage / retrieval and treatment of experimental data curve fitting) must be provided. **PROPOSAL REFERENCE:** _____

2.2.3.5 The software for multi compound analysis and for variable temperature experiments must be provided. **PROPOSAL REFERENCE:** _____

2.2.3.6 The operating software must allow future method development and storage by the operator

PROPOSAL REFERENCE: _____

2.2.4 Mandatory Supportability Requirements

2.2.4.1 The tools required for the normal maintenance of the apparatus must be provided. **PROPOSAL REFERENCE:** _____

2.2.4.2 A set of certified solid/liquid content standards consisting of three concentration levels must be included. **PROPOSAL REFERENCE:** _____

2.2.4.3 A set of 8 spin finish calibration transfer and calibration samples must be included. **PROPOSAL REFERENCE:** _____

2.2.4.4 All provided proprietary software must be of the most current version and must be capable of being installed, running and being updated offline **PROPOSAL REFERENCE:** _____

2.2.4.5 All proprietary software must be provided with a full end-user licence not limited in time and backup CD/DVD disks). **PROPOSAL REFERENCE:** _____

2.2.4.6 All software licences must include minimum one 1) year of maintenance.

PROPOSAL REFERENCE: _____

2.2.5 Optional Requirements

2.2.5.1 Software licence upgrades for a period of up to 5 years.

PROPOSAL REFERENCE: _____

2.2.5.2 Annual maintenance and calibration for a period of up to 5 years.

PROPOSAL REFERENCE: _____

2.2.6 Installation

2.2.6.1 The contractor must deliver, install and commission a TD – NMR spectrometer with the required specification identified in section 2.2. Installation must be completed 30 days following delivery.

PROPOSAL REFERENCE: _____

2.2.7 Manuals

2.2.7.1 Operating, maintenance and troubleshooting manuals and media for complete system as well as spare parts list in electronic format as a minimum **PROPOSAL REFERENCE:** _____

2.2.8 Constraints

2.2.8.1 All work must be performed during normal business hours (08:00-16:00).

PROPOSAL REFERENCE: _____

2.2.8.2 The Contractor performing the installation and calibration must be authorized by the OEM to work on the TD – NMR spectrometer being supplied. **PROPOSAL REFERENCE:** _____

3.0 DELIVERABLES

3.1 Deliver, install and conduct specification testing of a complete TD – NMR spectrometer satisfying all requirements identified in section 2.2 above, including but not limited to all accessories/hardware, software, manuals and other documents, within 30 days of contract award

PROPOSAL REFERENCE: _____

3.2 A minimum of 3 days on-site training for a maximum of seven (7) people in the use of the associated software within 30 days of installing and commissioning the system.

PROPOSAL REFERENCE: _____

3.3 All publications/manuals for the machine must be provided in English and must cover the calibration, operation and the maintenance of the system **PROPOSAL REFERENCE:** _____

3.4 The manufacturer's certificate of calibration must be supplied with the TD – NMR spectrometer.

PROPOSAL REFERENCE: _____