



**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

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

Title - Sujet RFI for Seismic Equipment	
Solicitation No. - N° de l'invitation 23240-160715/B	Date 2016-03-09
Client Reference No. - N° de référence du client 23240-160715	
GETS Reference No. - N° de référence de SEAG PW-\$\$PV-915-70506	
File No. - N° de dossier pv915.23240-160715	CCC No./N° CCC - FMS No./N° VME
Solicitation Closes - L'invitation prend fin at - à 02:00 PM on - le 2016-04-20	Time Zone Fuseau horaire Eastern Daylight Saving Time EDT
F.O.B. - F.A.B. Plant-Usine: <input type="checkbox"/> Destination: <input type="checkbox"/> Other-Autre: <input type="checkbox"/>	
Address Enquiries to: - Adresser toutes questions à: Gosselin, Monique	Buyer Id - Id de l'acheteur pv915
Telephone No. - N° de téléphone (873) 469-3194 ()	FAX No. - N° de FAX () -
Destination - of Goods, Services, and Construction: Destination - des biens, services et construction: DEPARTMENT OF NATURAL RESOURCES . 580 BOOTH ST OTTAWA Ontario K1A0E4 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 Security Requirement

There is no security requirement associated with this bid solicitation.

1.2 Requirement

The requirement is detailed under Article 6.2.1 of the resulting contract clauses.

1.2.1 Optional Requirement

The Contractor grants to Canada the irrevocable option to purchase up to an additional 70 seismometers, 80 accelerometers and 100 digitizers under the same terms and conditions and at the prices stated in the contract. The option may only be exercised by the Contracting Authority and will be evidenced, for administrative purposes only, through a contract amendment.

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 of 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: 60 days
Insert: 180 days

2.1.1 SACC Manual Clauses

B1000T Condition of Material

2014-06-26

2.2 Submission of Bids

Bids must be submitted only to the following address by the date, time and place indicated on page 1 of the bid solicitation:

Bid Receiving – PWGSC
11 Laurier Street
Place du Portage, Phase III
Core 0B2
Gatineau, Québec
K1A 0S5

Bid Fax: (819) 997-9776

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 questions 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 the province of Ontario, Canada.

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

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 (4 hard copies and 4 soft copies on CD or DVD)
Section II: Financial Bid (1 copy and 1 soft copy on CD or DVD)
Section III: Certifications (1 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 printing, printing double sided/duplex, using staples or clips instead of cerlox, duotangs or binders.

Section I: Technical Bid

The following applies to the Requirement and bidders must provide the following information in the bid:

3.1.1 Service

Purchase of the system must include: technical support; technical phone support; support via the Internet; and support via a fax-back document system. Service cost during the warranty period must be included in the price.

The bidder must guarantee that support for all items ordered be available for a minimum of 10 years following issuance of contract. Support following expiry of the warranty may be charged at the bidders then applicable rates.

Agreed: Yes _____

Response for service must be within 2 business days.

Also, provide the following with your bid (for information purposes only):

- 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.

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- 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.

3.1.2 Technical Evaluation

All proposals submitted must be completed in full and provide all of the information requested in the Request for Proposal (RFP) package to enable a full and complete evaluation. If the requirement is not addressed in the Bidder's proposal, the proposal will be considered incomplete or non-responsive and will be rejected. The onus is on the Bidder to provide all the information necessary to ensure a complete and accurate assessment.

Confirm that you have read and understood by checking the: Yes _____

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 must be provided with the bid at time of bid closing.

Full product literature, specification sheets, and product installation and instruction manuals MUST be provided to verify compliancy to the technical mandatory specifications.

Included: Yes: _____

3. COMPLIANCE WITH THE TERMS AND CONDITIONS OF THIS REQUEST FOR PROPOSAL (MANDATORY)

4. Please note that the requirements of the Federal Contractors Program for Employment Equity may apply - (see Part 5).

5. The Bidder must provide names and contact details of two customers available to support the Bidder Experience requirements per Annex B at the time of bid closing.

Included: Yes _____

6. The Bidder must operate a quality management system encompassing documented processes including, but not restricted to, design, manufacturing, service, measurement, and control of nonconformances. Bidders must provide a copy of their quality system manual and, if available, any applicable quality management system certifications at the time of bid closing.

Included: Yes _____

7. The Bidder must include in its bid response a representative power spectral density (PSD) plots for seismometer, accelerometer, and digitizer individually as well as in an assembled system with superimposed NLNM and NHNM indications at the time of bid closing.

Included: Yes _____

8. The Bidder must include in its bid response descriptions of the transfer function of the instruments that include a full specification of associated poles and zeros at the time of bid closing.

Included: Yes _____

9. The Bidder must support the validity of their performance specifications by providing one or more of the following types of documentation: copies of test procedures and results (internally developed, from customers, or from a third party), or relevant scientific journal publications at the time of bid closing.

Included: Yes _____

10. In particular to support the Bidder's claim of seismometer sensor self-noise (See Annex B Requirement/Mandatory Specifications, item 1.8), the Bidder must present evidence in the form of a scientific publication or a third party test report at the time of bid closing.

Included: Yes _____

11. In addition, NRCan may use any other internal and/or independent test data that it has obtained from any available sources, in order to substantiate claimed specifications.

12. Mandatory Technical Criteria

12.1 See Annex A – Requirement / Mandatory Specifications

13. Point Rated Technical Criteria

13.1 See Annex A-1 – Point Rated Technical Criteria

13.2 See Annex A-2 – Point Rated Bidder Experience Criteria

14. Proof of Bid (PoB) Test for Top-Ranked Responsive Bid:

- a) Canada may, but will have no obligation to, require that the top-ranked responsive Bidder (identified after the financial evaluation) submit to a Proof of Bid (PoB) test. Through the PoB test, Canada will test that the proposed solution meets the specifications as described in the Requirements and that it will function as described in the bid. Certain aspects of this testing may be conducted in a

laboratory, possibly in the United States, by a third party organization under the supervision of Canada.

- b) After being notified by the Contracting Authority, the Bidder would be given a maximum of seven working days to deliver a test unit to Canada. Canada may require up to three seismometers, accelerometers, digitizers, required cabling, and accessories, as well as a computer with associated data acquisition software sufficient to operate the equipment completely and correctly. In addition the Bidder must supply instructions on how to assemble, configure, and conduct data acquisition for the test process. The software must be configured to provide output data files in miniSeed format for assessment with tools supplied by Canada or a third party. Canada must have the right to retain data acquired during testing. The Bidder may provide a maximum of two representatives to be present during the PoB test to assist in setting up the test unit and provide advice. Should no representatives be present during testing, the Bidder must, at a minimum be available, to provide technical advice and clarification during the PoB test by telephone. However, Canada is not required to delay the PoB test if Bidder representatives are unavailable. Following completion of delivery, travel and setup times and once the PoB testing has begun, the test must be completed within ten (10) working days (7.5 hrs/day).
- c) The test instruments must be delivered to a location in the National Capital Region specified by Canada. All necessary documentation to allow shipment to and return from the United States must be included. Subsequent costs associated with further shipping to the test location, costs associated with testing, and costs of returning the unit to the Bidder will be borne by Canada. The Bidder is responsible for all travel arrangements of their representatives to the test locations including costs and possible visa requirements.
- d) Canada will document the results of the PoB Test. If Canada determines that the proposed solution does not meet any one (1) mandatory requirement of the bid solicitation, the bid will fail the PoB test and the bid will be disqualified. Canada may then proceed with the PoB test on the next highest ranked responsive bid.
- e) Canada may, as a result of the PoB test, reduce the score of the Bidder on any rated requirement, if the PoB test indicates that the score provided to the Bidder on the basis of its written bid is not validated by the PoB test. The Bidder's score will not be increased as a result of the PoB test.
- f) In connection with the PoB testing, the Bidder grants to Canada and any third party testing entity, a limited license to use the Bidder's proposed software solution for testing and evaluation purposes during the evaluation period.

3.1.3 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 (☐)

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3.1.4 Point of Manufacture/Shipping

The Bidder must state the point of manufacture/shipping of goods:

Location: _____
Postal Code: _____

3.1.5 Delivery

Final delivery of all items must be completed by March 31st 2017. Equipment, software, and mandatory accessories must be delivered in three batches according to following table.

Required Delivery Dates				
Item	Within 60 days of contract award*	90-120 days after contract award*	March 15 th , 2017	Total units delivered
Seismometers	30	20	90	140
Accelerometers	30	20	110	160
Digitizers	40	30	140	210
Data Centre Acquisition Software (if required)	Licences for multiple data centres			Licences for multiple data centres
Digitizer Connectors and Digitizer Power Cables	30 sets			30 sets

Agreed: Yes _____

*** For the first 2 batches, Canada request delivery as early as possible in the specified window, should the supplier have stock available.**

3.1.6 Software Upgrades

3.1.6.1 The Bidder must provide all software and firmware updates and new releases to the purchaser for a period of 3 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.

Agreed: Yes _____

3.1.7 Contacts

Bidders are requested to provide the following: Information pertaining to Article 6.5.4, Contractor Representatives under Part 6, Resulting Contract Clauses.

Section II: Financial Bid

The Bidder must quote a firm lot price all inclusive of supply, training and manuals, DDP (Ottawa, Ontario), the total amount of applicable taxes must be shown separately. Freight charges to destination and all applicable Customs duties and Excise taxes must be included.

Additional quantities

A firm unit price must be filled in for each of the option periods. If the bidder fails to quote a firm unit price for each of the option periods, the bidder will be considered non-compliant and no further consideration will be given.

3.2.1 Exchange Rate Fluctuation

C3011TExchange Rate Fluctuation (without protection)

2013-11-06

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. A third party may be retained to assist in Proof of Bid Testing.

4.1.2 Financial Evaluation

Evaluation of Price

The price of the bid will be evaluated in Canadian dollars, Applicable Taxes excluded, DDP (Ottawa, Ontario) Incoterms® 2000, Canadian customs duties and excise taxes included.

Unless the bid solicitation specifically requires bids to be submitted in Canadian currency, bids submitted in foreign currency will be converted to Canadian currency for evaluation purposes. The rate given by the Bank of Canada in effect on the bid solicitation closing date, or on another date specified in the bid solicitation, will be applied as a conversion factor to the bids submitted in foreign currency.

For bid evaluation purposes only, the total bid price will be determined by adding the cost for the firm quantity total with the cost for the optional quantities.

4.2 Basis of Selection

4.2.1 Basis of Selection - Highest Combined Rating of Technical Merit and Price

4.2.1.1 To be declared responsive, a bid must:

- a) comply with all the requirements of the bid solicitation; and
- b) meet all mandatory criteria.

4.2.1.2 Bids not meeting (a) and (b) will be declared non-responsive.

4.2.1.3 The selection will be based on the highest responsive combined rating of technical merit bidder experience and price. The ratio will be 20% for the technical, 20% for bidder experience and 60% for the price.

4.2.1.4 To establish the technical merit score, the overall technical score for each responsive bid will be determined as follows: total number of points obtained / maximum number of points available multiplied by the ratio of 20%.

4.2.1.5 To establish the bidder experience score, the overall bidder experience score for each responsive bid will be determined as follows: total number of points obtained / maximum number of points available multiplied by the ratio of 20%.

4.2.1.6 To establish the pricing score, each responsive bid will be prorated against the lowest evaluated price and the ratio of 60%.

4.2.1.7 For each responsive bid, the technical score, the bidder experience score, and the pricing score will be added to determine its combined rating using the following formula:
combined rating = technical score + bidder experience score + pricing score.

4.2.1.8 Neither the responsive bid obtaining the highest technical score nor the one with the lowest evaluated price will necessarily be accepted. The responsive bid with the highest combined rating of technical merit, bidder experience and price will be recommended for award of a contract.

The table below illustrates an example where all three bids are responsive and the selection of the contractor is determined by a 20/20/60 ratio of price, technical merit and bidder experience respectively. The total available points equals 100 and the lowest evaluated price is \$75,000.00.

Example of 60% Price Determination and 20% Technical Merit and 20% Bidder Experience				
	Bidder 1	Bidder 2	Bidder 3	
Total Bid Price quoted by Bidder	\$90,000	\$80,000	\$75,000*	
Technical Points Achieved by Bidder	90**	85	65	
Bidder Experience Points Achieved by bidder	20***	15	10	
CALCULATIONS				
	Price Points	Technical Points	Bidder Experience Points	Total Points
Bidder 1	$(1 - (90,000 - 75,000)/75,000) * 60 = 48.0$	$90/100 * 20 = 18.0$	$20/25 * 20 = 16.0$	$48.0 + 18.0 + 16.0 = 82.0$
Bidder 2	$(1 - (80,000 - 75,000)/75,000) * 60 = 56.0$	$85/100 * 20 = 17.0$	$15/25 * 20 = 12.0$	$56.0 + 17.0 + 12.0 = 85.0$
Bidder 3	$(1 - (75,000 - 75,000)/75,000) * 60 = 60.0$	$65/100 * 20 = 13.0$	$10/25 * 20 = 8.0$	$60.0 + 13.0 + 8.0 = 81.0$
* Represents the lowest price proposal				
** Represents the highest technical bid				
*** Represents the highest bidder experience				

The winner is the Bidder scoring the highest Total Points as a result of applying the Best Value Calculations to the bid price, technical bid and the bidder experience respectively. Based on the above example calculations a contract would be awarded to Bidder 2.

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.

BOARD OF DIRECTORS

Name	Position
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

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" 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.

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

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

5.2.2.1 Federal Contractors Program for Employment Equity - Certification

I, the Bidder, by submitting the present information to the Contracting Authority, certify that the information provided is true as of the date indicated below. The certifications provided to Canada are subject to verification at all times. I understand that Canada will declare a bid non-responsive, or will declare a contractor in default, if a certification is found to be untrue, whether during the bid evaluation period or during the contract period. Canada will have the right to ask for additional information to verify the Bidder's certifications. Failure to comply with any request or requirement imposed by Canada may render the bid non-responsive or constitute a default under the Contract.

For further information on the Federal Contractors Program for Employment Equity visit Employment and Social Development Canada (ESDC)-Labour's website.

Date: _____ (YYYY/MM/DD) *(If left blank, the date will be deemed to be the bid solicitation closing date.)*

COMPLETE BOTH A AND B.

A. Check only one of the following:

- ☐ A1 The Bidder certifies having no work force in Canada.
- ☐ A2 The Bidder certifies being a public sector employer.
- ☐ A3 The Bidder certifies being a federally regulated employer being subject to the Employment Equity Act.
- ☐ A4 The Bidder certifies having a combined work force in Canada of less than 100 employees (combined work force includes: permanent full-time, permanent part-time and temporary employees [temporary employees only includes those who have worked 12 weeks or more during a calendar year and who are not full-time students]).
- A5. The Bidder has a combined workforce in Canada of 100 or more employees; and
 - ☐ A5.1 The Bidder certifies already having a valid and current Agreement to Implement Employment Equity (AIEE) in place with ESDC-Labour.

OR

- ☐ A5.2 The Bidder certifies having submitted the Agreement to Implement Employment Equity (LAB1168) to ESDC-Labour. As this is a condition to contract award, proceed to completing the form Agreement to Implement Employment Equity (LAB1168), duly signing it, and transmit it to ESDC-Labour.

B. Check only one of the following:

- ☐ B1 The Bidder is not a Joint Venture.

OR

- ☐ B2. The Bidder is a Joint Venture and each member of the Joint Venture must provide the Contracting Authority with a completed annex Federal Contractors Program for for Employment Equity - Certification. (Refer to the Joint Venture section of the Standard Instructions)

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 Requirement

6.1.1 There is no security requirement applicable to this contract.

6.2 Requirement

6.2.1 Requirement

The Contractor must provide the items detailed under the Requirement / Mandatory Specifications at Annex A.

6.2.2 Optional Requirement

The Contractor grants to Canada the irrevocable option to purchase up to an additional 70 seismometers, 80 accelerometers and 100 digitizers under the same terms and conditions and at the prices stated in the contract. The option may only be exercised by the Contracting Authority and will be evidenced, for administrative purposes only, through a contract amendment.

The Contracting Authority may exercise the option within 3 years after contract award by sending a written notice to the Contractor.

6.2.3 Manuals

6.2.3.1 All components of the system (sensors, digitizers, and related software) must be provided with appropriate documentation describing use, requirements for associated systems, specifications and configuration.

6.2.3.2 Documentation must be provided in paper form (ten copies each for seismometer, accelerometer, and digitizer, and two copies data acquisition software (if required)) as well as in softcopy for via a CD/DVD (three copies) or downloadable.

6.2.3.3 All sensors and digitizers must be provided with calibration sheets, response information, transfer function, and test results, plots and documentation as appropriate.

6.2.3.4 Data centre software (if required) must be provided in CD/DVD format and provided in three copies.

Agreed: Yes _____

6.2.4 Service

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

The Contractor must guarantee that support for all items ordered be available for a minimum of 10 years following issuance of contract. Support following expiry of the warranty may be charged at the bidders then applicable rates.

Response for service must be within 2 business days.

6.2.5 Software Upgrades

6.2.5.1 The Contractor must provide all software and firmware updates and new releases to the purchaser for a period of 3 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>) issued by Public Works and Government Services Canada.

6.3.1 General Conditions

2010A (2015-09-03) General Conditions - Goods (Medium Complexity), apply to and form part of the Contract.

Subsection 9 of 2010A (2014-09-25) General Conditions - Goods or Services, is amended as follows:

Delete: Subsection 9 in his entirety.

Insert: " The Work is subject to inspection and acceptance by Canada. Despite prior acceptance of the Work and without restricting any conditions or warranty imposed by law, the Contractor, if requested by the Minister to do so, must replace, repair or correct at its option and its own expense any Work which becomes defective or which fails to conform to the Contract requirements, where applicable. For goods, the return-to-depot warranty period will be 3 years after delivery and acceptance or the length of the Contractor's or manufacturer's standard warranty period, whichever is longer. The return-to-depot warranty covers parts, labor and all related expenses. Any Work replaced, repaired or corrected pursuant to this section is subject to all provisions of the contract to the same extent as Work initially performed."

Agreed: Yes _____

The 2010A (2015-09-03), General Conditions - Goods (Medium Complexity) is appended with Section 31 - Intellectual Property Infringement and Royalties, as follows:

- 1) The Contractor represents and warrants that, to the best of its knowledge, neither it nor Canada will infringe any third party's intellectual property rights in performing or using the Work, and that Canada will have no obligation to pay royalties of any kind to anyone in connection with the Work.
- 2) If anyone makes a claim against Canada or the Contractor concerning intellectual property infringement or royalties related to the Work, that Party agrees to notify the other Party in writing immediately. If anyone brings a claim against Canada, according to [Department of Justice Act](#), R.S. 1985, c. J-2, the Attorney General of Canada must have the regulation and conduct of all litigation for or against Canada, but the Attorney General may request that the Contractor defend Canada against the claim. In either case, the

Contractor agrees to participate fully in the defence and any settlement negotiations and to pay all costs, damages and legal costs incurred or payable as a result of the claim, including the amount of any settlement. Both Parties agree not to settle any claim unless the other Party first approves the settlement in writing.

- 3) The Contractor has no obligation regarding claims that were only made because:
- (a) Canada modified the Work or part of the Work without the Contractor's consent or used the Work or part of the Work without following a requirement of the Contract; or
 - (b) Canada used the Work or part of the Work with a product that the Contractor did not supply under the Contract (unless that use is described in the Contract or the manufacturer's specifications); or
 - (c) the Contractor used equipment, drawings, specifications or other information supplied to the Contractor by Canada (or by someone authorized by Canada); or
 - (d) the Contractor used a specific item of equipment or software that it obtained because of specific instructions from the Contracting Authority; however, this exception only applies if the Contractor has included the following language in its own contract with the supplier of that equipment or software: "[Supplier name] acknowledges that the purchased items will be used by the Government of Canada. If a third party claims that equipment or software supplied under this contract infringes any intellectual property right, [supplier name], if requested to do so by either [Contractor name] or Canada, will defend both [Contractor name] and Canada against that claim at its own expense and will pay all costs, damages and legal fees payable as a result of that infringement." Obtaining this protection from the supplier is the Contractor's responsibility and, if the Contractor does not do so, it will be responsible to Canada for the claim.
- 4) If anyone claims that, as a result of the Work, the Contractor or Canada is infringing its intellectual property rights, the Contractor must immediately do one of the following:
- (a) take whatever steps are necessary to allow Canada to continue to use the allegedly infringing part of the Work; or
 - (b) modify or replace the Work to avoid intellectual property infringement, while ensuring that the Work continues to meet all the requirements of the Contract; or
 - (c) take back the Work and refund any part of the Contract Price that Canada has already paid.

If the Contractor determines that none of these alternatives can reasonably be achieved, or if the Contractor fails to take any of these steps within a reasonable amount of time, Canada may choose either to require the Contractor to do (c), or to take whatever steps are necessary to acquire the rights to use the allegedly infringing part(s) of the Work itself, in which case the Contractor must reimburse Canada for all the costs it incurs to do so.

6.3.2 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,

apply to and form part of the Contract.

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6.4 Term of Contract

6.4.1 Delivery Date

Final delivery of all items must be completed by March 31st 2017. Equipment, software, and mandatory accessories must be delivered in three batches according to following table.

Required Delivery Dates				
Item	Within 60 days of contract award	90-120 days after contract award	March 15 th , 2017	Total units delivered
Seismometers	30	20	90	140
Accelerometers	30	20	110	160
Digitizers	40	30	140	210
Data Centre Acquisition Software (if required)	Licences for multiple data centres			Licences for multiple data centres
Digitizer Connectors and Digitizer Power Cables	30 sets			30 sets

6.5 Authorities

6.5.1 Contracting Authority

The Contracting Authority for the Contract is:

Monique Gosselin
Public Works and Government Services Canada
Acquisitions Branch
Commercial Consumer Products Directorate
11 Laurier Street, 6A2, Phase III
Place du Portage, Gatineau, Quebec, K1A 0S5

Telephone: (873) 469-3194
Facsimile: (819) 956-3814
E-mail address: monique.gosselin@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 filled in only at contract award)*

The Technical Authority for the Contract is:

Name: _____
Telephone: () _____
E-mail address: _____

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The Technical Authority named above 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 NRCAN Procurement Authority *(to be filled in only at contract award)*

The NRCAN Procurement Authority for the Contract is:

Name: _____
Telephone: (____) _____
E-mail address: _____

The NRCAN Procurement Authority is responsible for the NRCAN contract management and for the authorization of all work against this contract.

6.5.4 Contractor's Representative *(fill in)*

The telephone number 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 Price

In consideration of the Contractor satisfactorily completing all of its obligations under the Contract, the Contractor will be paid firm lot prices, as specified in Annex B for a cost of \$_____ **(to be filled in only 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 SACC Manual Clauses

C2000C	Taxes - Foreign-Based Contractor	2007-11-30
H1001C	Multiple 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 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.

6.8.2 Federal Contractors Program for Employment Equity - Default by the Contractor

The Contractor understands and agrees that, when an Agreement to Implement Employment Equity (AIEE) exists between the Contractor and Employment and Social Development Canada (ESDC)-Labour, the AIEE must remain valid during the entire period of the Contract. If the AIEE becomes invalid, the name of the Contractor will be added to the "FCP Limited Eligibility to Bid" list. The imposition of such a sanction by ESDC will constitute the Contractor in default as per the terms of the Contract.

6.9 Applicable Laws

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

6.10 Priority of Documents

If there is a discrepancy between the wordings 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) 2010A (2015-09-03) General Conditions - Goods (Medium Complexity);
- (d) Annex A, Requirement / Mandatory Specifications;
- (e) Annex B, Basis of Payment;
- (f) the Contractor's bid dated _____ (*insert date of bid*).

6.11 SACC Manual clause

B1501C	Electrical Equipment	2006-06-16
A9068C	Government Site Regulations	2010-01-11
B7500C	Excess Goods	2006-06-16

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A2000C	Foreign Nationals (Canadian Contractor)	2006-06-16
A2001C	Foreign Nationals (Foreign Contractor)	2006-06-16
G1005C	Insurance	2008-05-12

6.12 Shipping Instructions

6.12.1 Shipping Instructions - Delivery at Destination

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

Delivered Duty Paid (DDP) (Ottawa, Ontario) Incoterms 2000 for shipments from a commercial contractor.
2. The Contractor will be responsible for all delivery charges, administration, costs and risk of transport and customs clearance, including the payment of customs duties and taxes.

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ANNEX A

REQUIREMENT / MANDATORY SPECIFICATIONS

NRCAN on behalf of the Canadian Hazard Information Service (CHIS) has a requirement for the renewal of the instrumentation and related software support infrastructure for the Canadian National Seismograph Network (CNSN). The CNSN is a monitoring system used for the detection and measurement of earthquakes and other seismic disturbances in Canada and abroad. The network consists of about 150 monitoring stations deployed across Canada. The network includes a mixture of weak motion and strong motion sensors, digitizers, communications equipment and site infrastructure. To record and analyse the acquired data CHIS operates two redundant data centres (one in Ottawa, Ontario, the other in Sidney, British Columbia). Further details on the current network may be found at <http://www.earthquakescanada.nrcan.gc.ca/>. NRCan intends to deploy the new equipment starting in the summer of 2016 with completion of the project in 2019.

NRCan seeks the supply of the following items as part of this procurement:

- Seismometers, Accelerometers, Digitizers, Accessories and, if required, Data Centre Acquisition Software, where the software has sufficient licensing to run in parallel at multiple data centres to acquire all data for up to 500 stations
- Warranty on equipment for a period of three years following delivery.
- Warranty and updates on software and firmware for a period of three years following installation.
- Documentation for all components of the system (sensors, digitizers, and related software) , describing use, requirements for associated systems, and configuration
- All sensors and digitizers with calibration and test documentation as appropriate
- Training
- An optional requirement for additional deliveries for the items above.

ACRONYMS AND DEFINITIONS

ADC	Analog to Digital Converter
API	Application Programming Interface
CHIS	Canadian Hazard Information Service
CLI	Command Line Interface
CNSN	Canadian National Seismograph Network
CTBTO	Comprehensive Nuclear Test Ban Treaty Organization

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DSL	Digital Subscriber Line
GSC	Geological Survey of Canada
GFE	Government Furnished Equipment
GPS	Global Positioning System
IMS	International Monitoring System
ISP	Internet Service Provider
IP	Internet Protocol
LTA	Long Term Average
miniSEED	Data file format, see http://ds.iris.edu/ds/nodes/dmc/data/formats/seed/
NLNM	New Low Noise Model
NHNM	New High Noise Model
NRCan	Natural Resources Canada
PGA	Peak Ground Acceleration
PGD	Peak Ground Displacement
PGV	Peak Ground Velocity
SEED	Standard for the Exchange of Earthquake Data see http://ds.iris.edu/ds/nodes/dmc/data/formats/seed/
Sensor	Unless otherwise indicated sensor means seismometer or accelerometer
SOH	State Of Health
sps	samples per second
STA	Short Term Average
TCP	Transmission Control Protocol
UDP	User Datagram Protocol
USGS	United States Geological Survey
Vpp	Volts Peak to Peak
V/m/s	Volts per metre per second

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MANDATORY SPECIFICATIONS FOR SEISMIC EQUIPMENT

Vendors must cross reference the mandatory technical criteria in a concise format by using page, paragraph(s) & sub-paragraphs as applicable to their supporting technical documentation.

Mand Spec #	MANDATORY SPECIFICATIONS	Substantiate in detail how this requirement is met, and cross reference to technical offer (page and paragraph)
1.0 Seismometers		
1.1	Type: Sensor must be a triaxial, broadband, velocity seismometer with vertical, north and east component outputs and force-balance feedback design.	
1.2	Enclosure: Sensor must be packaged separate from digitizer, i.e. no integrated seismometer and digitizer.	
1.3	Output range: Sensor must have an output setting of 40 Vpp differential.	
1.4	Sensitivity: Sensor must have a sensitivity of at least 1000 V/m/s.	
1.5	Dynamic range: Sensor must have a dynamic range of at least 135 dB in the frequency range of 30 s to 10 Hz.	
1.6	Seismometer must have a clip level at least 10 dB above the self-noise level of the accelerometer described in section 2.0.	
1.7	Bandwidth: Sensor bandwidth must be flat to velocity from 120 s to 50 Hz or better.	
1.8	Sensor self-noise: Sensor self-noise must be below USGS NLNM from 30 s to 10 Hz on all three components.	
1.9	Control: Must allow local and remote control of sensor on all three channels including mass lock & unlock (if necessary), mass centre and calibration.	
1.10	Physical size: Sensor dimensions must be no larger than 35 cm high and 25 cm in diameter.	
1.11	Weight: Sensor weight must be no more than 15 kg.	
1.12	Enclosure ingress protection: Sensor must be suitable for permanent deployment in harsh climates and have ingress protection rating of IP67 or better.	
1.13	Temperature range: Sensor must have an in-specification operating temperature range of -20 C to 50 C or better.	

Mand Spec #	MANDATORY SPECIFICATIONS	Substantiate in detail how this requirement is met, and cross reference to technical offer (page and paragraph)																																			
1.14	Levelling: Sensor must be supplied with levelling devices, e.g. adjustable feet, self-levelling, etc.																																				
1.15	Level indicators: Sensors must either provide a bubble level or the top of the case must be flat and level relative to sensor axes.																																				
1.16	Orientation indicator: Sensor must have indicator for the direction of the north or east axis on at least one side or the top.																																				
1.17	Lifetime: Sensor must be designed for at least a ten year lifespan.																																				
1.18	Seismometer return rate: The return rate must average no more than 5% per year. Bidder must submit evidence for this, including the number of deliveries and returns (for any reason) for each year of product availability (the lesser of 10 years or time since product introduction)																																				
	Bidder must also complete table in the rightmost column (add rows as necessary). Canada will calculate average return rate as follows:																																				
	Sample Calculation of Average Rate of Return:																																				
	<table><tr><th>A</th><th>B</th><th>C</th><th>D</th><th>E</th></tr><tr><th>Project Year</th><th>total # units delivered</th><th>Cumulative # units delivered</th><th># returns in the year</th><th>Rate of return</th></tr><tr><td>1</td><td>100</td><td>100</td><td>2</td><td>2.0%</td></tr><tr><td>2</td><td>100</td><td>200</td><td>3</td><td>1.5%</td></tr><tr><td>3</td><td>50</td><td>250</td><td>3</td><td>1.2%</td></tr><tr><td>4</td><td>25</td><td>275</td><td>1</td><td>0.4%</td></tr><tr><td colspan="4">Average rate of return</td><td>1.3%</td></tr></table>	A	B	C	D	E	Project Year	total # units delivered	Cumulative # units delivered	# returns in the year	Rate of return	1	100	100	2	2.0%	2	100	200	3	1.5%	3	50	250	3	1.2%	4	25	275	1	0.4%	Average rate of return				1.3%	
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C: Year 1: C = Value B Year 1 Year 2: C= Value B Year 1 + Value B Year 2 Year 3: C= Value B Year 1 + Value B Year 2 + Value B Year 3, etc.																																					
E: Column D/Column C *100 Average rate of return = Sum of column E / number of years																																					

Mand Spec #	MANDATORY SPECIFICATIONS	Substantiate in detail how this requirement is met, and cross reference to technical offer (page and paragraph)
2.0 Accelerometers		
2.1	Type: Sensor must be a triaxial, broadband, force-balance accelerometer with vertical, north and east component outputs.	
2.1	Enclosure: Sensor must be packaged separate from digitizer, i.e. no integrated accelerometer and digitizer.	
2.3	Full scale range: Sensor must have a full scale range of +/- 4g.	
2.4	Dynamic range: Sensor must have a dynamic range of at least 135 dB in the frequency range of 10 s – 10 Hz.	
2.5	Accelerometer must have a self-noise level at least 10 dB below the clip level of the seismometer described in section 1.6.	
2.6	Bandwidth: Sensor bandwidth must be flat to acceleration from DC to 100 Hz or better.	
2.7	Sensor self-noise: Sensor self-noise must be below USGS NHHM from 10 s to 10 Hz on all three components.	
2.8	Control: Must allow local and remote control of sensor on all three channels including offset zeroing and calibration.	
2.9	Physical size: Sensor dimensions must be no larger than 10cm x 20cm x 20cm.	
2.10	Weight: Sensor weight must be no more than 3 kg.	
2.11	Enclosure ingress protection: Sensor must be suitable for permanent deployment in harsh climates and have ingress protection rating of IP67 or better.	
2.12	Temperature range: Sensor must have an in-specification operating temperature range of -20 C to 50 C or better.	
2.13	Levelling: Sensor must be supplied with levelling devices, e.g. adjustable feet, self-levelling, etc.	
2.14	Level indicators: Sensors must either provide a bubble level or the top of the case must be flat and level relative to sensor axes.	
2.15	Anchoring: Sensor must have an anchoring device to prevent movement.	
2.16	Orientation indicator: Sensor must have indicator for the direction of the north or east axis on at least one side or the top.	
2.17	Lifetime: Sensor must be designed for at least a ten year lifespan.	

Mand Spec #	MANDATORY SPECIFICATIONS	Substantiate in detail how this requirement is met, and cross reference to technical offer (page and paragraph)																																																		
2.18	<p>Accelerometer return rate: The return rate must average no more than 5% per year. Bidder must submit evidence for this, including the number of deliveries and returns (for any reason) for each year of product availability (the lesser of 10 years or time since product introduction.</p> <p>Bidder must also complete table in the rightmost column (add rows as necessary). Canada will calculate average return rate as follows:</p> <p>Sample Calculation of Average Rate of Return:</p> <table><tr><th>A</th><th>B</th><th>C</th><th>D</th><th>E</th></tr><tr><th>Project Year</th><th>total # units delivered</th><th>Cumulative # units delivered</th><th># returns in the year</th><th>Rate of return</th></tr><tr><td>1</td><td>100</td><td>100</td><td>2</td><td>2.0%</td></tr><tr><td>2</td><td>100</td><td>200</td><td>3</td><td>1.5%</td></tr><tr><td>3</td><td>50</td><td>250</td><td>3</td><td>1.2%</td></tr><tr><td>4</td><td>25</td><td>275</td><td>1</td><td>0.4%</td></tr><tr><td colspan="4">Average rate of return</td><td>1.3%</td></tr></table> <p>C: Year 1: C = Value B Year 1 Year 2: C= Value B Year 1 + Value B Year 2 Year 3: C= Value B Year 1 + Value B Year 2 + Value B Year 3 Etc...</p> <p>E: Column D/Column C *100</p> <p>Average rate of return = Sum of column E / number of years</p>	A	B	C	D	E	Project Year	total # units delivered	Cumulative # units delivered	# returns in the year	Rate of return	1	100	100	2	2.0%	2	100	200	3	1.5%	3	50	250	3	1.2%	4	25	275	1	0.4%	Average rate of return				1.3%	<table><tr><th>Product Year</th><th>total # units delivered</th><th># returns in year</th></tr><tr><td>1</td><td></td><td></td></tr><tr><td>2</td><td></td><td></td></tr><tr><td>3</td><td></td><td></td></tr><tr><td>4</td><td></td><td></td></tr></table>	Product Year	total # units delivered	# returns in year	1			2			3			4		
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Mand Spec #	MANDATORY SPECIFICATIONS	Substantiate in detail how this requirement is met, and cross reference to technical offer (page and paragraph)
3.0 Digitizers		
3.1	Digitizer type: Digitizer must be a broadband, seismic digitizer with one 24 bit or greater ADC per channel.	
3.2	Number of channels: Digitizer must have 6 channels.	
3.3	Input range: Digitizer must have an input setting of 40 Vpp differential.	
3.4	Gain settings: Must have appropriate gain settings in order to capture the full scale of the sensor at the maximum possible resolution. As an example of appropriate gain settings, if a 40 Vpp seismometer is connected to channels 1-3 and a 10 Vpp accelerometer is connected to channels 4-6, then channels 1-3 must be able to be configured to a gain of 1 and channels 4-6 must be able to be configured to a gain of 4.	
3.5	Dynamic range: Digitizer must have a dynamic range of at least 135 dB.	
3.6	Digitizer self-noise: Digitizer self-noise must be at least 10 dB below the USGS NLNM.	
3.7	Timing accuracy: The digitizer must always maintain the GPS engine in an "on" state, and the data sample timing accuracy must be better than 100 µs.	
3.8	Sample rates: Sample rate must be user selectable per group of three channels and include settings of at least 20, 40, 100 and 200 sps.	
3.9	Monitoring: Must be able to monitor and check the status of the digitizer (and all attached sensors) both locally (on-site) and remotely (by communications link). See "State-of-Health data" below for the types of SOH data.	
3.10	Configuration, command and control: Must be able to configure, command and control the digitizer (and all attached sensors) both locally and remotely. Command includes locking, unlocking and centering masses, and zeroing offsets. Control includes the ability to restart/reset the digitizer.	
3.11	Sensor calibration: The digitizer must be able to send calibration signals to all channels of all sensors. Calibration must be able to be initiated both locally and remotely.	
3.12	Monitoring, configuration, command and control, and sensor calibration method: Monitoring, configuration, command and control, and sensor calibration must be via a web browser, and/or a webservices interface, and/or via a Linux-based API, and/or via a Linux-based program or CLI. Programs, APIs and CLIs that must run on other computing platforms, including Microsoft Windows are not acceptable.	
3.13	Calibration type: Sensor calibration type must include sine wave, step function and one or more broadband calibration options, such as Pseudo-Random Binary or white noise.	

Mand Spec #	MANDATORY SPECIFICATIONS	Substantiate in detail how this requirement is met, and cross reference to technical offer (page and paragraph)
3.14	Power to sensors: The digitizer must provide appropriate power to two connected sensors – typically one seismometer and one accelerometer.	
3.15	Power: The digitizer and any required auxiliary devices (e.g. for timing (GPS antenna), local data storage, real-time data telemetry, etc.) must take no more than 12 Watts of power at 12 VDC, when a) connected to one three channel broadband seismometer and one three channel accelerometer, and b) sampling at 100 sps, and c) with the GPS always running, and d) buffering to local storage and streaming continuous data via an IP communications link.	
3.16	Physical size: Digitizer and any required auxiliary devices altogether must be no larger than 45 cm by 20 cm by 20 cm.	
3.17	Weight: Digitizer and any required auxiliary devices altogether must weigh no more than 10 kg	
3.18	Enclosure ingress protection: Digitizer and any required auxiliary devices must be suitable for permanent deployment in harsh climates and have ingress protection rating of IP67 or better.	
3.19	Temperature range: Digitizer and any auxiliary devices must have an in-specification operating temperature range of -20°C to 50°C.	
3.20	Ethernet interface: Digitizer or auxiliary device must have at least one Ethernet network interface to be used for data communication with distant data centres.	
3.21	Communications protocol: Data communications must use IP protocols.	
3.22	Telecommunications services: Data communications must work with the following communication services: cell modems, satellite links, DSL and cable ISPs, IP radios, Wi-Fi and frame relay links	
3.23	Data recording: Digitizer must provide complete and continuous digital recording of data from sensors.	
3.24	Triggered data: In addition to continuous data recording, triggered data segments must be supported. Data segments should be triggered off external inputs, STALTA ratios or pre-set levels.	
3.25	Data compression: Data recorded from digitizer must be compressed for storage and transmission using a lossless compression algorithm. Data compression must be at least 50% under typical conditions.	
3.26	Local storage: Digitizer or auxiliary device must have a local, non-volatile storage buffer of at least 28 days in duration, assuming six channels at 100 sps and 50% data compression.	
3.27	Data telemetry: Digitizer or auxiliary device must provide continuous and triggered, real-time data transmission to distant data centres via the Ethernet port.	
3.28	Local storage and remote data telemetry: Continuous and triggered data must be simultaneously available for local storage and telemetry via the Ethernet interface.	

Mand Spec #	MANDATORY SPECIFICATIONS	Substantiate in detail how this requirement is met, and cross reference to technical offer (page and paragraph)
3.29	Data latency: Data telemetry must have low latency and send data packets within one second of creation.	
3.30	Packet size: Data packets must contain no more than three seconds of data for any channel in order to maintain low data latencies.	
3.31	Multiple data centres: Simultaneous data telemetry to multiple data centres must be supported	
3.32	Data telemetry protocol: A data telemetry protocol is used to control and manage the streaming of data between multiple sites. The digitizer or auxiliary device must support a data telemetry protocol suitable for real-time data transmission, i.e. file transfer is not acceptable.	
3.33	Data retransmission: The data telemetry protocol must support real-time requesting and retransmission of missed data. If real-time, streaming data is not received at the data centre (e.g. due to communications outage), the missed data must be able to be requested (or acknowledged as missing) and resent. The digitizer or auxiliary device must support the real-time retransmission of any data that is up to 24 hours old, or better.	
3.34	File access: The digitizer or auxiliary device must support local and remote extraction of any portion of the local storage buffer into miniSEED format files via http, https, scp or ftp file transfer.	
3.35	Channel naming: It is mandatory that the digitizer must identify the data stream from each channel by either: i) Using a naming convention that includes a two-character (SEED) network code, a five-character station code, a two-character location code, and a three-character (SEED) channel code. ii) Using an identifier that gets associated with the naming convention in a) above when the data is received at the data centre, i.e. an id-to-name mapping	
3.36	SOH data: The digitizer must be able to provide State-of-Health (SOH) information for the following attributes: system status (e.g. okay, attention needed), supply voltage, mass positions, clock status.	
3.37	SOH access: All SOH data must be accessible locally and remotely via the digitizer monitoring method mentioned above.	
3.38	Lifetime: Digitizer must be designed for at least a ten year lifespan.	

Mand Spec #	MANDATORY SPECIFICATIONS	Substantiate in detail how this requirement is met, and cross reference to technical offer (page and paragraph)																																																		
3.39	<p>Digitizer return rate: The return rate must average no more than 5% per year. Bidder must submit evidence for this, including the number of deliveries and returns (for any reason) for each year of product availability (the lesser of 10 years or time since product introduction).</p> <p>Bidder must also complete table in the rightmost column (add rows as necessary). Canada will calculate average return rate as follows:</p> <p>Sample Calculation of Average Rate of Return:</p> <table><tr><th>A</th><th>B</th><th>C</th><th>D</th><th>E</th></tr><tr><th>Project Year</th><th>total # units delivered</th><th>Cumulative # units delivered</th><th># returns in the year</th><th>Rate of return</th></tr><tr><td>1</td><td>100</td><td>100</td><td>2</td><td>2.0%</td></tr><tr><td>2</td><td>100</td><td>200</td><td>3</td><td>1.5%</td></tr><tr><td>3</td><td>50</td><td>250</td><td>3</td><td>1.2%</td></tr><tr><td>4</td><td>25</td><td>275</td><td>1</td><td>0.4%</td></tr><tr><td colspan="4">Average rate of return</td><td>1.3%</td></tr></table> <p>C: Year 1: C = Value B Year 1 Year 2: C= Value B Year 1 + Value B Year 2 Year 3: C= Value B Year 1 + Value B Year 2 + Value B Year 3 Etc...</p> <p>E: Column D/Column C *100</p> <p>Average rate of return = Sum of column E / number of years</p>	A	B	C	D	E	Project Year	total # units delivered	Cumulative # units delivered	# returns in the year	Rate of return	1	100	100	2	2.0%	2	100	200	3	1.5%	3	50	250	3	1.2%	4	25	275	1	0.4%	Average rate of return				1.3%	<p>Digitizer return rate: The return rate must average no more than 5% per year. Bidder must submit evidence for this, including the number of deliveries and returns (for any reason) for each year of product availability (the lesser of 10 years or time since product introduction).</p> <p>Bidder must also complete table in the rightmost column (add rows as necessary). Canada will calculate average return rate as follows:</p> <p>Sample Calculation of Average Rate of Return:</p> <table><tr><th>Product Year</th><th>total # units delivered</th><th># returns in year</th></tr><tr><td>1</td><td></td><td></td></tr><tr><td>2</td><td></td><td></td></tr><tr><td>3</td><td></td><td></td></tr><tr><td>4</td><td></td><td></td></tr></table>	Product Year	total # units delivered	# returns in year	1			2			3			4		
	A	B	C	D	E																																															
	Project Year	total # units delivered	Cumulative # units delivered	# returns in the year	Rate of return																																															
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	2	100	200	3	1.5%																																															
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Mand Spec #	MANDATORY SPECIFICATIONS	Substantiate in detail how this requirement is met, and cross reference to technical offer (page and paragraph)
4.0	<p>Data Centre Acquisition Software</p> <p>NRCAN currently uses Antelope software from BRTT and SeisCompP3 software from Gempa for both data acquisition and processing. If the Bidder uses Antelope or SeisCompP3 for its data acquisition and processing, the Bidder is not required to bid on this item. NRCAN will only accept and support software that runs on Linux CentOS 6 or higher virtual servers running on Intel/AMD X86 computers.</p> <p>Bidders must identify from the list appearing below the data acquisition software that will be proposed for NRCAN data centres (select one only):</p> <p>Antelope _____ SeisCompP3 _____ Other Proprietary _____</p> <p>Bidders must select one of these proposals:</p> <p>i) NRCAN will install, configure, support and maintain any required data acquisition software at its data centres. _____</p> <p>ii) Bidder will install and configure software at NRCAN data centres; under these circumstances, the Bidder must currently hold valid an appropriate government security clearances. _____</p>	
4.1	Data acquisition modules: At NRCAN data centres, station waveform and SOH data must be acquired directly from the digitizer by robust and supported Antelope data acquisition modules (e.g. q3302orb), or by robust and supported SeisCompP3 data acquisition modules, or by proprietary acquisition software which will be supplied by the bidder.	
4.2	Data acquisition software requirements: All data acquisition software (whether Antelope, SeisCompP3, or proprietary) must support all real-time data telemetry requirements listed in the digitizer section above. For example, real-time waveform and SOH data telemetry to multiple data centres, real-time retransmission of missed data, channel naming requirements, etc.	
4.3	Data transfer to Antelope or SeisCompP3 software: If proprietary software is required for data acquisition, all station waveform and SOH data must be forwarded in real-time to Antelope or SeisCompP3 software with minimal data delay (less than 1 second) and maximal completeness (i.e. must support data retransmission mechanism for missed data).	

Mand Spec #	MANDATORY SPECIFICATIONS	Substantiate in detail how this requirement is met, and cross reference to technical offer (page and paragraph)
4.4	Data extraction from proprietary software: If proprietary software is required for data acquisition, it must provide the capability to automatically and routinely extract all data in miniSEED format files, one file per channel per day. This is in addition to the real-time data transfer described in section 4.3.	
4.5	Monitoring of data acquisition system: Monitoring software must be provided. Monitoring software must provide the ability to monitor the data acquisition software performance, station state-of-health and data quality, and data acquisition performance (e.g. station data availability, data latency, etc.). If necessary, the monitoring functionality can be provided directly by the data acquisition software via http or https web access.	
4.6	Software watchdogs: All continuously running software must be started automatically at computer boot up and be automatically restarted in case of a software crash.	
4.7	Computer platform: Any data centre software provided must be able to run on existing NRCan computers (i.e. virtual servers based on CentOS Linux 6 or higher on X86).	
4.8	Multiple data centres: Any required data centre software must run simultaneously at multiple data centres.	
4.9	Software licensing: Any data centre software provided must have sufficient licensing to run in parallel at multiple data centres to acquire all data for up to 500 stations.	

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ANNEX A-1

POINT RATED TECHNICAL CRITERIA

Each Technical Proposal that meets all Mandatory Requirements specified above will be evaluated and scored in accordance with the following Point-Rated Requirements.

Bidders must provide substantiating detail and a “Cross Reference” index that identifies the paragraphs and page numbers associated with each criterion.

Point Rated Technical #	POINT-RATED TECHNICAL REQUIREMENT	Max Score	Substantiate in detail, and cross reference to technical offer (page and paragraph)
T1.0 Seismometers			
T1.1	Mass locking: Sensor should require no mass locking for safe transport.	5	
	0 - Mass lock required for transport 5 - Mass lock not required for transport		
T1.2	Instrument information: Should allow local and remote querying of sensor to retrieve manufacturer information including no less than the instrument model, serial number and status.	6	
	0 – Feature not supported 2 points, up to a maximum of 6, for each of the following types of information available: sensor model, serial number, status.		
T1.3	Insulation: Sensors should be provided with close-fitting insulation to reduce thermal instability.	3	
	0 – no close-fitting insulation provided 3 – close-fitting insulation provided		

Point Rated Technical #	POINT-RATED TECHNICAL REQUIREMENT	Max Score	Substantiate in detail, and cross reference to technical offer (page and paragraph)
T1.4	<p>Seismometer return rate: The return rate should average less than 5% per year. Bidder must submit evidence for this, including the number of deliveries and returns (for any reason) for each year of product availability (the lesser of 10 years or time since product introduction)</p> <p>0 - return rate \geq 5% per year 9 - return rate $<$ 5% per year 18 - return rate \leq 4% per year 27 - return rate \leq 3% per year 36 - return rate \leq 2% per year</p> <p>Canada will use the data in Annex A, para 1.18 to calculate average return rate.</p>	36	
TError! Reference source not found.	<p>Seismometer IMS compliance: The seismometer should meet International Monitoring System, IMS, compliance specifications. The Comprehensive Nuclear Test Ban Treaty Organization, CTBTO must have accepted that it "substantially meets" requirements. The bidder must provide documentation from the CTBTO proving acceptance.</p> <p>0 – does not meet IMS compliance 8 – meets IMS compliance</p>	8	
2.0 Accelerometers			
T2.1	<p>Output range: Sensor should have an output setting of 40 Vpp differential</p> <p>0 – 40 Vpp output range supported 2 – 40 Vpp output range not supported</p>	2	
T2.2	<p>Instrument information: Should allow local and remote querying of sensor to retrieve manufacturer information including no less than the instrument model, serial number and status.</p> <p>0 – Feature not supported 2 points, up to a maximum of 6, for each of the following types of information available: sensor model, serial number, status.</p>	6	

Point Rated Technical #	POINT-RATED TECHNICAL REQUIREMENT	Max Score	Substantiate in detail, and cross reference to technical offer (page and paragraph)
T2.3	Accelerometer return rate: Return rate should average less than 5% per year. 0 - return rate \geq 5% per year 2 - return rate $<$ 5% per year 4 - return rate \leq 4% per year 6 - return rate \leq 3% per year 8 - return rate \leq 2% per year Canada will use the data in Annex A, para 2.17 to calculate average return rate.	8	
T3.0 Digitizers			
T3.1	Multiple sample rates: Digitizer should be able to simultaneously record channels at different sample rates. For example, stream weak motion data at 40 sps and record locally at 100 sps, or stream strong motion data at 100 and send triggered data at 200 sps. 0 – Neither option supported 8 – A channel can be recorded at multiple sample rates. E.g. record channel 1 at 40 and 100 sps 8 -- Different channels can be recorded at different sample rates. E.g. record channel 1 at 40 sps and channel 4 at 100 sps 16 – Both options supported simultaneously Monitoring, configuration, command and control, and sensor calibration method preference: Preferences for monitoring, configuration, command and control, and sensor calibration methods are rated in the following order: web browser, webservices interface, Linux-based API, Linux-based program or CLI.	16	
T3.2	0 – Linux-based program or CLI 2 – Linux-based API 5 – web browser or web service Instrument information: Via the monitoring method, should be able to remotely query the digitizer AND all attached sensors to retrieve the manufacturer information including not less than the instrument model and serial number.	5	
T3.3	0 – Query of digitizer and sensors NOT supported 2 – Query of only digitizer supported 4 – Query of digitizers and sensors supported	4	

Point Rated Technical #	POINT-RATED TECHNICAL REQUIREMENT	Max Score	Substantiate in detail, and cross reference to technical offer (page and paragraph)
T3.4	<p>Reduced packet size: The digitizer should be configurable so that data packets contain no more than one second of data for any channel, in order to maintain very low data latencies suitable for earthquake early warning systems.</p> <p>0 – Reduced packet sizes not supported 10 - Reduced packet sizes supported</p> <p>UDP/IP-based data telemetry protocol: The data telemetry protocol should use UDP/IP (as opposed to TCP/IP) as a base protocol for better performance on low bandwidth, low latency and problematic communications links.</p>	10	
T3.5	<p>0 – Protocol does not use UDP/IP 5 – Protocol uses UDP/IP</p> <p>Telemetry bandwidth: Data telemetry should require no more than 20 kilobits per second for 6 channels sampled at 100 sps being sent to two data centres, assuming 50% compression, a packet duration of no more than three seconds, and no retransmission needed. Bidders must submit proof of bandwidth required.</p>	5	
T3.6	<p>0 – bandwidth > 32 kbps 4 – bandwidth >29 kbps 8 – bandwidth > 26 kbps 12 – bandwidth > 23 kbps 16 – bandwidth <= 20 kbps</p> <p>Maximum retransmission: The digitizer or auxiliary device and the data telemetry protocol should support the real-time retransmission of ANY data in the local storage buffer, i.e. 28 days of data. Note, section Mandatory specification 3.33Error! Reference source not found. states the real-time of data in the last 24 hours is mandatory. This point-rated requirement is for the real-time retransmission of data from 24 hours to 28 days.</p>	16	
T3.7	<p>0 – Retransmission of any data not supported 4 – Retransmission of any data supported</p>	4	

Point Rated Technical #	POINT-RATED TECHNICAL REQUIREMENT	Max Score	Substantiate in detail, and cross reference to technical offer (page and paragraph)
T3.8	Data order: In normal operations (i.e. no missed data), data should be sent in time order. After a communications outage and retransmitting missed data, current (data from last five minutes) real-time data should be sent before older missed data, which in turn should be sent before newer missed data. 0 – Desired data order not supported 12 – Desired data order supported	12	
T3.9	Throttling: The digitizer or auxiliary device should support data throughput throttling for problematic or low-bandwidth communication links. 0 – Throttling not supported 4 – Throttling supported	4	
T3.10	Auxiliary channels: Digitizer should include one or more auxiliary analog channels sampled at least 1 sps and with 10 bits of resolution. 0 – Auxiliary channels not supported 2 – One auxiliary channel supported 4 – Two or more auxiliary channel supported	4	
T3.11	Optional SOH data: The digitizer should be able to provide State-of-Health (SOH) information for the following attributes: temperature, complete power status (current, voltages, recent min/max), complete clock status including number of GPS satellites, complete sensor status, digital inputs status (e.g. vault/authbox door open/closed). 0 – No optional SOH data supported 2 points per SOH type, up to a maximum of 10 points	10	
T3.12	SOH data telemetry: SOH data should be transmitted in real-time via telemetry to multiple data centres. The frequency of SOH sampling should be user configurable and from once per minute to once per 6 hours. 0 – No real-time SOH transmission 2 – Real-time SOH transmission at fixed interval 5 – Real-time SOH transmission at configurable interval	5	

Point Rated Technical #	POINT-RATED TECHNICAL REQUIREMENT	Max Score	Substantiate in detail, and cross reference to technical offer (page and paragraph)
T3.13	<p>Event processing: Digitizer should support the creation of triggered data products such as PGA/PGV/PGD event alerts. Triggered data products should be transmitted in real-time via telemetry to multiple data centres.</p> <p>0 – No triggered data products 1 – Triggered data products supported but not sent in real-time 3 – Triggered data products supported AND sent in real-time</p> <p>Firmware upgrades: The digitizer should support remote firmware upgrades. In addition, safe upgrades should be supported such that the digitizer will automatically revert to the last viable firmware version if an upgrade fails to work properly.</p>	3	
T3.14	<p>0 – Safe, remote upgrades not supported 2 – Remote upgrades supported 4 – Safe, remote upgrades supported</p> <p>Digitizer return rate: The return rate should average less than 5% per year. Bidder must submit evidence for this, including the number of deliveries and returns (for any reason) for each year of product availability (the lesser of 10 years or time since product introduction.</p>	4	
T3.15	<p>0 - return rate >= 5% per year 8 - return rate < 5% per year 16 - return rate <= 4% per year 24 - return rate <= 3% per year 32 - return rate <= 2% per year</p> <p>Canada will use the data in Annex A, para 3.39 to calculate average return rate.</p>	32	
T3.16	<p>Digitizer IMS compliance: The digitizer should meet International Monitoring System, IMS, compliance specifications. The Comprehensive Nuclear Test Ban Treaty Organization, CTBTO must have accepted that it “substantially meets” requirements. The bidder must provide documentation from the CTBTO proving acceptance.</p> <p>0 – does not meet IMS compliance 8 – meets IMS compliance</p>	8	

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Point Rated Technical #	POINT-RATED TECHNICAL REQUIREMENT	Max Score	Substantiate in detail, and cross reference to technical offer (page and paragraph)
T3.17	<p>Data acquisition software preference: At NRCan data centres, station waveform and SOH data should be acquired directly from the digitizer by robust and supported Antelope and/or SeisComP3 modules without requiring other proprietary acquisition software from the bidder.</p> <p>0 – Antelope and SeisComP3 not supported directly by digitizer 16 – Antelope supported directly by digitizer 16 – SeisComP3 supported directly by digitizer 32 – Both Antelope and SeisComP3 supported directly by digitizer</p>	32	

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ANNEX A-2

POINT RATED BIDDER EXPERIENCE CRITERIA

Each project summary and reference will be evaluated using the same scoring method and will be awarded points in accordance with the point-ratings outlined in the "Bidder Experience Detailed Evaluation Grid" below. The bidder is to use the *Project Summary and Reference Sheet Template* to record the project summary information. Any supporting documents must be clearly referenced in the bid.

The bidder is required to provide up to two (2) written project summaries with their bid response describing previous projects of similar scope completed prior to the closing date of this bid solicitation, where the equipment has been delivered and is in use. The project summaries will be evaluated based on the following categories:

Category A: One (1) with a project of similar scope based on size and complexity and completed within the last five years

Category B: One (1) with a project of similar scope based on size and complexity completed within the last ten years

A total of two (2) project summaries will be evaluated, with a total of one (1) from each category. If a project summary is missing for a category, that category will receive zero (0) points. If zero (0) project summaries are received, the bid will be considered non-compliant. If more than two (2) are received, NRCan will only evaluate the first category A and the first category B, as they appear in the bid submission.

The value of a Category A project summary is worth 70% of total Bidder Experience points; the value of a Category B project summary is worth 30% of total Bidder Experience points.

Calculation of total Bidder Experience points:

Category A mark * 0.70 plus Category B mark * 0.30 = total Bidder Experience points

Example: Category A = 65 points; Category B = 55 points: (65*0.70) + (55*0.30)

Total Score = 45.5+16.5=62

Using the *Project Summary and Reference Sheet* template below, bidders must include the following information for each project summary:

1. Name of the client organization
2. Dates, duration and location of the project
3. Dollar value of the project (specify currency)
4. A brief description of the scope of services provided including number of seismic stations, number of weak motion sensors and number of digitizers; a description of methodologies, software, hardware and other equipment and products used in the delivery of service.
5. Information allowing an assessment of the quality of goods and services provided.

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6. Totals of deliveries and returns during each year of the project, in order to determine average return rates.
7. An account of timeliness on repair of equipment and software.
8. An indication of how the project met the delivery schedule requirements that had been contractually established for the project.
9. The name, address, email and telephone number of the client project authority to whom the bidder reported.
10. Alternate contact name

A similar scope project is defined as having successfully provided a project comprising at least 100 sensors (at least 75 of which were seismometers), 100 digitizers, and acquisition software (if needed).

Canada may, as a result of a reference check, reduce the score of the Bidder on any rated requirement, if the reference check reveals that the score provided to the Bidder on the basis of its written bid is not validated by the reference check. The Bidder's score will not be increased as a result of any reference check. If the client reference cannot be reached or does not respond to the written questionnaire (see *Bidder Experience Detailed Evaluation Grid below*) within a ten day period, the score allocated for that project will be zero.

Project Summary and Reference Sheet Template Instructions: To be completed by Bidder, one for each project summary. In the cells where a description is expected, the field may be expanded to fit the input. Any supporting documents must be clearly referenced in the bid or appended to the appropriate project summary.

BIDDER EXPERIENCE: PROJECT SUMMARY AND REFERENCE TEMPLATE		
Bidder Name:		
Project Summary Reference # ____ of ____		
Criterion: (select one)		
<input type="checkbox"/> Category A: Project of similar size and scope and completed within the past five (5) years <input type="checkbox"/> Category B: Project of similar size and scope and completed within the past ten (10) years		
Client Organization Name:		
Start Date:	Duration:	Value:
Location of project:		

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BE1.1 Number of stations:		BE1.1 Number of weak motions sensors:		BE1.1 Number of digitizers:	
BE1.2 Description of the project work: <i>The Bidder should include scope, objectives, results, methodology, software, hardware and other equipment and products used in the delivery of the service/product.</i>					
BE2.1 Description of the quality of the product, service provided and the result:					
BE3.1 Describe your approach to maintaining a quality service standard including details regarding timeliness on repair of equipment and software:					
BE3.2 Provide information to indicate how the project met the delivery schedule requirements that had been contractually established for the project :					
Name of Project Authority / Executive					
Title					
Contact Email					
Contact Telephone #					
Alternate Client Contact Information					

Solicitation No. - N° de l'invitation 23240-160715/A	Amd. No. - N° de la modif. pv915	Buyer ID - Id de l'acheteur pv915
Client Ref. No. - N° de réf. du client 23240-160715	File No. - N° du dossier pv91523240-160715	CCC No./N° CCC - FMS No/N° VME

Bidder Experience Detailed Evaluation Grid

The grid below will be used to evaluate the bidder experience. This is for information purposes only and will be completed by NRCan.

BIDDER EXPERIENCE DETAILED EVALUATION GRID TO BE COMPLETED BY NRCan					
Bidder Name:					
Evaluator Name:					
Score: Maximum number of points per project summary is 94					
Point Rated Bidder Experience #	Rated Requirements	Evaluation Criteria Scoring Method	Maximum Points Available Per Project Summary	Bidder Points Category A	Bidder Points Category B
BE1	BE1.1 Validation of size and scope	<p>Maximum 5 points</p> <p>BE1.1 Does the project summary meet the size and scope? # of sensors ≥ 100 Weak motion sensors ≥75 If marked “Yes”, the project summary will be evaluated; if marked “No”, the project summary is automatically marked zero (0) points.</p>	5	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No
	BE1.2 Description of project work	<p>BE1.2 The Bidder has provided a description of the work including a clear description of the service provided, the methodology, software, hardware and other equipment and products used in the delivery of the service/product that is clear and fully describes the scope of the service/project.</p> <p>0 points (None): No description provided</p> <p>1 – 2 points (Minimal): Minimal description provided that does not clearly describe the service provided,</p>			

		the methodology, software, hardware and other equipment and products used in the delivery of the service/product.				
		<p>3 - 4 points (Adequate): A moderate description provided that adequately describes the service provided, the methodology, software, hardware and other equipment and products used in the delivery of the service/product.</p> <p>5 points (Excellent): A complete and detailed description that clearly and fully describes the service provided, the methodology, software, hardware and other equipment and products used in the delivery of the service/product.</p> <p>Maximum 74 points</p>				
<p>BE2</p> <p>Quality and dependability</p>	<p>BE2.1 Description of the quality of the product provided and the result.</p> <p>The bidder must supply technical information deemed pertinent, such as (but not limited to) additional test results, third party reports, or scientific</p>	<p>BE2.1 The Bidder has demonstrated the quality of the product provided and the result through the inclusion of examples of relevant past projects, client testimonials, and description of project results.</p> <p>0 points (inadequate) : No demonstration of quality of the product provided and the result.</p> <p>2 – 4 points (Minimal): Limited demonstration of quality of the product provided and the result through the inclusion of examples of relevant past projects, client testimonials, and description of project results.</p> <p>6 - 8 points (Adequate): Some demonstration of quality of the product provided and the result through the inclusion of examples of relevant past projects, client testimonials, and description of project results.</p> <p>10 points (Excellent): Extensive demonstration of quality of the product provided and the result through the inclusion of examples of relevant past projects, client testimonials, and description of project results.</p>	10			

	publications related to the proposed equipment.	<p>BE2.2: Average Rate of Return Return rates are calculated regardless of the return reasons</p> <p>BE2.2 Point rated based on rate of return calculation* and awarded as follows: 32 points: <2% 24 points: ≥2% - <3% 16 points: ≥3% - <4% 8 points: ≥4% - <5% 0 points: ≥5%</p>				
	a. Sensors	BE2.2a Sensors (up to 32 points of total points)	32			
	b. Digitizers	BE2.2b Digitizers (up to 32 points of total points)	32			
		Canada may validate information through reference questionnaire.				
		Maximum 15 points				
BE3 Service and Delivery Performance	BE3.1 Service Provides suitable evidence that the service was timely and to the	<p>BE3.1 The Bidder has demonstrated the quality of the service by demonstrating timeliness on repairs to equipment and/or software product provided as part of the project through the inclusion of supporting evidence, such as client testimonials and/or service logs.</p> <p>0 points (inadequate): No demonstration of quality of the service provided and the result.</p>	10			

	satisfaction of the client.	<p>2 – 4 points (Minimal): Limited demonstration of quality of the service provided with little evidence of timeliness and/or client satisfaction.</p> <p>6 - 8 points (Adequate): Some demonstration of quality of the service provided with inclusion of client testimonials and/or logs to support adequate timeliness on repairs to equipment and/or software and client satisfaction.</p> <p>10 points (Excellent): Extensive demonstration of quality of the service provided with inclusion of client testimonials and/or logs to support adequate timeliness on repairs to equipment and/or software and client satisfaction.</p>				
	<p>BE3.2 Delivery</p> <p>Provides suitable evidence that the project/service was delivered on-time in accordance with the established project goals.</p>	<p>Delivery</p> <p>0 points (inadequate): no adequate evidence provided to indicate if the project/service was delivered on-time and within budget</p> <p>3 points (moderate): moderate evidence provided describing that the project/service was delivered on-time and within budget</p> <p>5 points (adequate): adequate evidence provided that demonstrated the project/service was delivered on-time and within budget</p> <p>Canada may validate information through reference questionnaire.</p>	5			
		Points Per Category	94			
		Rating Percentage		70%	30%	
		Weighted Points Per Category				
		Bidder Experience Points				

Written reference questionnaire: (to be completed by contact indicated in the project summary, if required):			
Canada may contact the reference to validate the following information about the Bidder and ask for either a Yes or No only response to each of the following questions:			
	Reference 1		Reference 2
	Yes	No	Yes No
Was the equipment delivered on time?			
Did the equipment function to your satisfaction?			
Were the services provided in a timely manner?			
Were the services performed to your satisfaction?			
Is the number of sensors and digitizers reported to have been delivered accurate?			
Is the number of sensors returned quoted accurate?			
Is the number of digitizers returned quoted accurate?			

ANNEX B

BASIS OF PAYMENT

Natural Resources Canada has a requirement for the supply of 140 seismometers, 160 accelerometers and 210 digitizers with user training for up to 20 persons in accordance with all the mandatory specifications detailed in the Request for Proposal for delivery to Ottawa, Ontario.

The requirement also includes an irrevocable option to purchase additional 70 seismometers, 80 accelerometers and 100 digitizers within 3 years after contract award.

Item	Description	Unit of Issue	Firm Qty	Firm unit price DDP (Ottawa, Ontario)
1	Seismometer in accordance with all the mandatory specifications detailed in Annex A and must include the following: i) all required cables and interconnecting devices to allow connection to the digitizer, including but not limited to sensor signals, power and state of health information, to allow complete and normal operation. The supplied cables must be between 2 and 4 metres in length. These assemblies must be IP67 ingress protection rated. ii) specialized accessories as required to allow installation and operation.	Each	140	\$ _____
2	Accelerometer in accordance with all the mandatory specifications detailed in Annex A and must include the following: i) all required cables and interconnecting devices to allow connection to the digitizer, including but not limited to sensor signals, power and state of health information, to allow complete and normal operation. The supplied cables must be between 2 and 4 metres in length. These assemblies must be IP67 ingress protection rated. ii) specialized accessories as required to allow installation and operation.	Each	160	\$ _____

Item	Description	Unit of Issue	Firm Qty	Firm unit price DDP (Ottawa, Ontario)
3	Digitizer in accordance with all the mandatory specifications detailed in Annex A and must include the following: i) a suitable GPS antenna and cable, with a cable length of 15m. This assembly must be IP67 ingress protection rated. ii) a data cable for ethernet transmitted data suitable for connection to the digitizer with IP67 ingress protection. The other end of this cable must be provided with an RJ45 plug and the length of this cable must be at least 4m long.	Each	210	\$ _____
4	Unwired power connectors for the digitizer, unwired Ethernet connectors for the digitizer, if applicable unwired state of health connectors for the digitizer, if applicable unwired control interface connectors for the digitizer	Each	30	\$ _____
5	Data Centre Acquisition Software (if required) in accordance with the mandatory specifications detailed in Annex A. If Bidder is not required to provide Data Centre Acquisition Software, enter nil.	Lot	1	\$ _____
6	Thirty (30) power cables with connector suitable for the digitizer on one end and unterminated on the other must be supplied. The supplied cables shall must be at least 4m long. This assembly shall must be IP67 ingress protection rated at the digitizer end.	Lot	1	\$ _____
7	On-site training must be provided for a maximum of 20 persons for at least 5 days in Ottawa for installation, configuration, and use of station equipment and/or data centre software. The on-site training is to be scheduled at a mutually agreeable time within approximately 30 days of contract award. NRCan must make appropriate space available. All costs associated (all materials, travel and living expenses) with the on-site training must be included in the price. Provide complete details of training e.g. duration, scope, etc.	Lot	1	\$ _____

Additional Quantities

Item	Description	Unit of Issue	Optional quantities	Firm Unit Price DDP (Ottawa, Ontario) 1 st year option (2016-2017)	Firm Unit Price DDP (Ottawa, Ontario) 2 nd year option (2017-2018)	Firm Unit Price DDP (Ottawa, Ontario) 3 rd year option (2018-2019)
1	Seismometer in accordance with all the mandatory specifications detailed in Annex A and must include the following: i) all required cables and interconnecting devices to allow connection to the digitizer, including but not limited to sensor signals, power and state of health information, to allow complete and normal operation. The supplied cables must be between 2 and 4 metres in length. These assemblies must be IP67 ingress protection rated. ii) specialized accessories as required to allow installation and operation.	Each	70 The following yearly quantities will be used for price evaluation only: Year 1: 30 Year 2: 20 Year 3: 20	\$ _____	\$ _____	\$ _____
2	Accelerometer in accordance with all the mandatory specifications detailed in Annex A and must include the following: i) all required cables and interconnecting devices to allow connection to the digitizer, including but not limited to sensor signals, power and state of health information, to allow complete and normal operation. The supplied cables must be between 2 and 4 metres in length. These assemblies must be IP67 ingress protection rated. ii) specialized accessories as required to allow installation and operation.	Each	80 The following yearly quantities will be used for price evaluation only: Year 1: 30 Year 2: 30 Year 3: 20	\$ _____	\$ _____	\$ _____

Item	Description	Unit of Issue	Optional qties	Firm Unit Price DDP (Ottawa, Ontario) 1 st year option (2016-2017)	Firm Unit Price DDP (Ottawa, Ontario) 2 nd year option (2017-2018)	Firm Unit Price DDP (Ottawa, Ontario) 3 rd year option (2018-2019)
3	Digitizer in accordance with all the mandatory specifications detailed in Annex A and must include the following: i) a suitable GPS antenna and cable, with a cable length of 15m. This assembly must be IP67 ingress protection rated. ii) a data cable for ethernet transmitted data suitable for connection to the digitizer with IP67 ingress protection. The other end of this cable must be provided with an RJ45 plug and the length of this cable must be at least 4m long.	Each	100 The following yearly quantities will be used for price evaluation only: Year 1: 40 Year 2: 30 Year 3: 30	\$ _____	\$ _____	\$ _____

For information only:

- 1) Bidders are encouraged to list, describe and price any other available options that may be relevant to this project. This may include hardware and software options for use at stations or data centres.
- 2) Bidders are encouraged to list, describe and price any other available services that may be relevant to this project, e.g. installation or configuration of required or optional items. This may include field or data centre services.